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ABSTRACT

This report was written to provide the nation's education community with up-to-date information on the most significant recent studies on reading problems in concise, understandable language. Administrators, teachers, and school boards are anxious to improve their reading programs as part of the new national goal to end reading failures in America by 1980. The report is designed to give them answers to some of the most pertinent questions: What can schools do to improve their reading programs? What can superintendents, principals, and teachers do to help? How can high schools help their students read more effectively? What are some examples of successful preschool and elementary school programs? What are the lessons of reading research? To answer these questions such topics as diagnosing the problem, choosing the teaching technique, surveying the school's needs, building the staff, bringing in the community, training teachers and specialists, and organizing the high school developmental reading program are discussed. An annotated list of reading resources compiled by the ERIC Clearinghouse on Reading is appended. (Author/DH)

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READING CRISIS: The Problem and Suggested Solutions

An EDUCATION U.S.A. Special Report

This Is an EDUCATION U.S.A. Special Report

Since it was founded in 1958 *Education U.S.A.* has introduced several new dimensions to educational journalism in the United States. Its weekly newsletter on education scans major developments in preschool to graduate level education. The editors select from hundreds of sources each week what seems most significant or interesting for the newsletter's readers. The *Washington Monitor* section is a current report on activities at the U.S. Office of Education, on Capitol Hill, and in other federal agencies involved in education. Each year the editors prepare *The Shape of Education,* a special handbook of articles highlighting significant new developments that have surfaced as major educational issues.

Occasionally, the editors decide that some aspects of education are important enough to be covered in detail through special reports. This is the nineteenth report of this type.

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EDUCATION U.S.A.
SPECIAL REPORT

READING CRISIS: The Problem and Suggested Solutions

OVERVIEW

The grim facts speak for themselves. Masses of American students are coming out of the public schools unable to function effectively because of reading deficiencies. And the federal government is using its national platform to spotlight the failure. As a result, the reading issue is currently the most publicized failure in education.

James E. Allen, U.S. Commissioner of Education, is leading the new federal crusade against reading failure. He is giving it top priority at the U.S. Office of Education (USOE). In most of his public appearances he repeats his central theme: There is no excuse for the scandalous record of reading failure in American schools.

Allen, utilizing an array of statistics gathered for him by USOE, points to shocking statistics: One of four students nationwide has significant reading deficiencies; more than three million illiterates are in the nation's adult population; about one-half of the unemployed youth, ages 16-21, are functionally illiterate; three-quarters of the juvenile offenders in New York City are two or more years retarded in reading.

And there are numerous other indicators which further dramatize the problem: • Achievement tests given to 84,000 third graders in New York City show that 60% are reading below third-grade level. • A study of 50,000 eighth graders showed that only 14% had eighth-grade reading ability. Eight percent read at fifth-grade level and 7% at twelfth-grade level. The remainder of the pupils ranked in between. A USOE report says, "This is typical and creates an enormous problem for both the student and the school." • Recent studies indicate that the number of boys who either read poorly or not at all exceeds the number of girls by 10 to 1. • A USOE report estimates that from 1 to 5% of a school's population could have severe reading disability requiring technical diagnosis and treatment in a reading clinic. This may seem small, but in a city the size of Detroit, with some 300,000 children in the public schools, it means that 15,000 children probably need some kind of clinical help. Even in a system the size of Kettering, Ohio, with 15,000 students, there may be 750 pupils who need clinical aid.

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"The tragedy of these statistics is that they represent a barrier to success that for many young adults produces the misery of a life marked by poverty, unemployment, alienation, and, in many cases, crime," Allen says. "It must be recognized...that for the majority who do acquire the basic reading skills, there can also be a barrier which limits the fulfillment of their right to read," he asserts. "This barrier exists when the skill of reading is not accompanied by the desire to read. We fail just as much in assuring the right to read when the desire is absent as when the skills are missing."

Many reasons are being given for current failures of school reading programs. A four-part, in-depth study of the problem by USOE's PREP (Putting Research into Educational Practice) offers these reasons: more children in school; more complex psychological problems; more distractions; less compulsion to learn; and insufficient funds to provide adequate personnel, space, and materials. PREP also points out that blame for reading failure has shifted in recent years. Once, failure was considered by both parents and schools as the child's failure. Now parents say something is wrong with the school if the child does not learn to read, PREP reports. In fact, it is common today for parents to evaluate the success of a school by their child's progress in reading. If their child does not learn to read, PREP says, parents believe there is something wrong with the whole school system. PREP adds that educators are now tending to agree with this conclusion.

The PREP reports, prepared jointly by the Indiana U. Reading Program, USOE, the Educational Resources Information Center (ERIC) data bank on reading, and the International Reading Association, offer educators advice on how to improve their reading programs. The study was made on the premise that research and experimentation, while nowhere near offering all the answers, had already supplied enough applicable data to improve both the teaching of reading and efforts toward remedying reading problems.

The PREP study admits that "not a great deal is known about reading problems--why some children learn and others do not, what kind of training to give to those who teach reading, what materials best facilitate learning to read, what separate skills combine to turn an illiterate child into a discriminating reader." But it quickly adds that some significant conclusions can be reached from research already available:

- The classroom teacher is the single most important factor in whether, and how well, a child learns to read.
- Most of the present methods and materials for teaching reading work for some children, but no one method works for all children.
- Diagnostic teaching is necessary if children are to succeed in reading.
- Teaching should be carried on by enthusiastic teachers who are trained in identifying reading skills and in matching problems with appropriate corrective techniques and materials.

Although the classroom teacher is now recognized as the single most important factor in reading success, the PREP study points out that there are large numbers of elementary school teachers who have never been taught to teach reading effectively. And most high school teachers, confronted daily by students who cannot read effectively, have not had a single course in reading. Yet, while evidence of reading failure becomes increasingly dramatic,

PREP reports that many school administrators "have no idea how serious the problem is in their buildings or school systems."

Allen is going to make the problem more difficult to ignore. He is convinced that "there is no higher nationwide priority in the field of education than the provision of the right to read for all." He says USOE and the Dept. of Health, Education, and Welfare "can do no greater service for the cause of education than to spearhead a nationwide attack to eliminate this failure of our education efforts. Therefore, as U.S. Commissioner of Education, I am herewith proclaiming my belief that we should immediately set for ourselves the goal of assuring that by the end of the 1970's the right to read shall be a reality for all--that no one shall be leaving our schools without the skill and the desire necessary to read to the full limits of his capability. This is education's 'moon'--the target for the decade ahead," Allen said.

One of the major questions confronting the "Right To Read" program is this: Who is going to put up the money needed to meet Allen's goal by 1980? The analogy to the moon program is all well and good, skeptics have said, but the space agency had billions of dollars to accomplish its mission, and most of the dollars were federal. Many who first lauded Allen's proposals quickly turned critical when it became apparent that there was to be no massive federal spending to support the new push.

Allen's first "Right To Read" speech was delivered before the National Assn. of State Boards of Education because, as he put it, the state boards "bear the responsibility for shaping basic educational policies for the primary and secondary schools of our nation. The responsibility for the provision of educational opportunity, traditionally and legally, rests with the states. State boards are, of course, not alone in this responsibility, for it falls also upon all those who participate in the administration and operation of the educational enterprise.... But to hit the target by the end of the 1970's, to achieve a goal of such enormous dimensions, involvement will have to reach far beyond the forces of education. In other words, I am calling for a total national commitment to an involvement in the achievement of the 'Right To Read' goal," Allen asserted.

"Continued toleration of the failure to give everyone the ability to read breaks faith with the commitment of equality of opportunity which is the foundation of our public education system," he continued. "Having arrived at a time which holds forth the possibility of eliminating this failure, we must, in all justice, seize the opportunity with the utmost vigor and determination. Remarkable success has been achieved by our educational system, but so long as there is one boy or girl who leaves school unable to read to the full extent of his capability, we cannot escape the charge of failure in carrying out the responsibility entrusted to us."

Thus, with this glowing bit of rhetoric the U.S. Commissioner of Education has launched the most highly dramatized campaign ever conducted in the nation to improve the teaching of reading. As a result of this campaign, ignorance of the reading problem in American schools will be reduced as efforts are made to drive home the "shocking facts" disclosed by Allen and the PREP study. One result should be obvious in the years ahead: public pressure on school districts to improve reading programs will increase sub-

stantially, and public toleration of failure will be less generous to school administrators, teachers, and school boards.

One form of pressure, often resisted by both teachers and school administrators, is public reporting of reading test results so that individual schools and school districts can be compared. Many educators don't like to have results compared because they are convinced that comparisons can lead to faulty conclusions concerning the quality of a school's program. But numerous powerful political leaders, and some educators, disagree. They believe that once the public recognizes the critical nature of the problem, it will demand and get necessary reforms in reading programs. More and more big cities, long reluctant about releasing scores, are disclosing how each school scored on reading tests. Another form of comparison will become increasingly evident as the National Assessment of Educational Progress releases the results of its assessment of reading abilities. Although the results of these assessments will be released on a regional basis, pressure will increase for local districts to conduct similar assessments and disclose the results to the public.

A form of indirect pressure on districts to improve reading achievement has been introduced in California at the suggestion of State Supt. of Public Instruction Max Rafferty. The Rafferty plan calls for the issuance of certificates of award to the 10 districts in the state scoring the highest improvement on reading tests. "I know this isn't going to work any great magic," Rafferty says, "but it may offer an incentive." Rafferty also suggests that school districts consider doubling the amount of time students spend on reading. "This might seem disproportionate," he says, "but without reading, all doors are closed."

No one who knows the problem of improving reading instruction believes in "any great magic" which can provide a solution overnight. But there are many practical steps, often small in themselves, which have made a difference. The following chapters discuss some of these "steps" which teachers and administrators can take to meet demands for more effective reading programs. Programs which have been successful are outlined. And the latest results of research, comparing various approaches to reading, are reported.

Editor's Note

This report is not designed to be a definitive study on reading. It has set narrow goals: to provide the nation's education community with an up-to-date report of the most significant recent studies on reading problems in concise, understandable language. Administrators, teachers, and school boards are anxious to improve their reading programs as part of the new national goal to end reading failures in America by 1980. This report is designed to give them answers to some of the most pertinent questions: What can schools do to improve their reading programs? What can superintendents, principals, and teachers do to help? How can high schools help their students read more effectively? What are some examples of successful preschool and elementary school programs? What are the lessons of reading research?

WHAT TEACHERS CAN DO

Authorities generally agree that the most important part of any school reading program is the classroom teacher. No matter what kind of curriculum guides a school has--or how many expensive gadgets--the burden still falls upon the classroom teacher both to spot problem youngsters and to help them improve. "The classroom teacher is in a key position," says Carl B. Smith, reading specialist at Indiana U. "Unless she can succeed in preventing reading problems from reaching the crisis stage, remedial programs may grow so large as to be unworkable."

Almost everyone assumes that just about any modern-day teacher has the training and ability to teach children to read. Yet, surveys show that the typical classroom teacher--even at the elementary school level--has little idea of how to teach reading effectively.

And small wonder. As Mary C. Austin reported in The Torch Lighters (Harvard University Press, 1961), few U.S. teachers colleges offer much formal course work in reading instruction. Undergraduates usually get far more training in art, music, and physical education than they do in reading, although--ironically--most school systems retain specialists to handle those fields.

Naturally, authorities say, the best way for a teacher to learn how to teach reading is to go back to school--by taking summer courses, enrolling in inservice training, or reading professional books on the subject. But even where there are no outside opportunities for a teacher to learn more about reading instruction, there are some things she can do to improve her skill.

Here are some step-by-step suggestions--taken from USOE's PREP series and from other sources--on how to teach reading more effectively:

Diagnosing the Problem

The first step in teaching any child to read better, authorities say, is to find out his weaknesses. How large is his vocabulary? How well can he recognize words? How fully does he understand what he has read? It doesn't take a specialist to see that a youngster can't read well, but it does take some careful observation to pinpoint specific areas where a child needs help.

The most important thing, however, authorities say, is to begin early in trying to diagnose a pupil's reading problems--almost from the moment that the youngster first enters class. A four-year study of some 10,000 pupils shows that chances for correcting reading deficiencies are 10 times greater if the problem is spotted in the primary grades.

There are several levels of reading diagnosis, ranging from simple vocabulary tests to an analysis of the pupil's general intelligence, memory, association, and reasoning. But to the classroom teacher, authorities say, the most important thing is to discover specific skills in which a child is weak --so that she can concentrate on those areas and can determine at what level the pupil should be taught. "A specific diagnosis," PREP urges, "is probably the key factor in prevention as well as in remediation of reading difficulties."

How To Test Pupils' Reading

In his Foundations of Reading Instruction (American Book Co., 1946), specialist Emmett A. Betts lists three separate measurements for gauging a youngster's reading ability:

- Independent reading level--the level of material which a child can read comfortably, without help, with an average of no more than one pronunciation error in 100 words.
- Frustration level--the point at which the child can no longer cope with the material, even if he strains to do it. The pupil shows a high error rate and low comprehension.
- Instructional level--somewhere in between the first two. The material is simple enough so the pupil can cope with it, but challenging enough to exercise his reading skills. At this point, Betts says, the pupil probably recognizes about 95% of the words and scores at least 75% on comprehension. It's the ideal level, he contends, for making progress under a teacher's guidance.

To gauge pupils' reading levels, most school systems now use some form of group survey test, such as the Gates Primary Reading Tests or the Iowa Tests of Educational Development. But authorities warn that standardized tests, while valuable for initial screening, primarily measure the child's "frustration level." What the teacher needs is to determine what specific skills the youngster needs help with and at what level he should be taught.

For pinpointing individual weaknesses, there are more analytical tests, such as the Dvorak-Van Wagenen Diagnostic Examination of Silent Reading Abilities, which focus on specific skills. Those for primary graders usually measure reading readiness, vocabulary, visual and auditory discrimination, and some comprehension. For higher grades, the exams are more extensive.

Still, many educators believe that the most valuable diagnostic tools to the classroom teacher are the informal tests which she makes up herself, and her own day-to-day observations. As PREP points out, they needn't be elaborate or even very formal. If a teacher wants to know whether a child can pronounce a digraph, such as ch, she merely asks him to read several words that contain it--church, chair, chicken. To test comprehension, she can ask the pupil to close his book, then give him a quiz on the paragraph he has just finished reading. Each test, made up on the spot, measures one specific factor.

For a broader look at a youngster's reading ability, authorities suggest, the teacher can take an informal "reading inventory" of a particular pupil's skills simply by combining several of these techniques. Using specially selected passages which the youngster hasn't seen before, the teacher asks him to read aloud some paragraphs of varying difficulty. At the end of each paragraph, she has him explain what he's read. By making careful notes of what kinds of mistakes a child makes--and by charting how often they crop up--a teacher can compile a fairly accurate profile of a pupil's reading needs. The International Reading Association (IRA) in Newark, Del., has published a book on this technique: Informal Reading Inventories, by Marjorie Seddon Johnson and Roy A. Kress (1965).

Watching for Telltale Signs

Besides testing, authorities generally agree, the classroom teacher's most valuable diagnostic aids are her own eyes and ears--her day-to-day observations of each pupil's performance. Early in the semester, specialists stress, the teacher should discipline herself to be continually alert to the way a child expresses himself--and to spot changes when they occur. In a general way, she should constantly notice the pupil's skill in enunciation and phrasing and his word-by-word reading ability.

If a child balks at words, says PREP--or omits, repeats, or mispronounces them--then he might need help in building "word recognition" skills, such as sight-reading, or guessing a word from the context of a sentence. (When children substitute words in a sentence, authorities say, they often give clues about their own strengths and weaknesses. If the word the youngster substitutes makes good sense, he probably understands what he is reading--even if his "synonym" isn't precisely correct. If the replacement word is illogical, then the child most likely is just guessing wildly, and doesn't comprehend the passage.)

If a pupil seems to have difficulty in discerning syllables, in analyzing words, or in blending sounds, PREP continues, then he may be weak in "word attack" skills--learning to recognize specific vowels and consonants and to pick out parts of compound words and using phonics to figure out pronunciation. Authorities point out that group instruction and discussion sessions often are good opportunities to observe youngsters' performance. In such cases, they say, even children who usually are silent may display some previously unnoticed ability.

As Indiana's Professor Smith points out, there's even a lot to look for while the child is reading silently at his desk: How well does the pupil seem to comprehend? Does he move his lips while he reads, or does he whisper or use his index finger to keep his place? Is he easily distracted? Tense? What is his posture? What is the child's attitude toward reading? Does he seem to look forward to reading periods? Is he interested or apathetic? Self-confident or shy?

There's also a chance to watch for reading-related weaknesses when the class has turned to another subject; for example, when a child is giving an oral report, or working in a group. Does he seem to have a large vocabulary, or does he use only a few words, or misuse some? Does he use complex sentences, or incomplete ones? Has he much imagination? A good sense of humor?

What kinds of books does the youngster like best? Does he show interest in a variety of books? Does he usually finish the books he starts? What about the pupil's reading habits outside the lesson period? Does he use books frequently during free periods? Does he use the library regularly? Does he read much at home?

Questions such as these, when used in conjunction with informal tests, can make valuable diagnostic aids, according to researcher Ruth Strang--not only for spotting deficiencies at first but also for recognizing changes later on. In fact, many teachers report they have found it valuable to keep

simple checklists on each pupil, filling them in at frequent intervals to chart progress and to refresh themselves about each student's weak points.

Such record-keeping needn't be elaborate, authorities say. Often just a key word or two on a record card or looseleaf notebook will do. More detailed records, including original test scores and notes on individual conferences, often can be helpful. The idea is to provide the teacher with an up-to-date picture of the youngster's needs.

Looking Beyond the Classroom

Not as easily noticeable, but often just as crucial to a child's reading skill, authorities say, are factors outside the classroom--the pupil's home life and community. The size of a child's family--and his own position in it--can have a marked effect on his reading ability, researchers report. So can the attitude of his parents toward school and education.

Does the home have many books? Is the child encouraged to read? Do members of the family speak often or communicate mostly through nods and gestures? All these can affect reading skill. If a foreign language is spoken at home or if parents' speech patterns are faulty, the child likely will be handicapped. If the home is constantly noisy, he may develop a short attention span. As has been dramatized recently, children who appear too sleepy to sit through a lesson often are plain hungry. Does the child have vision or hearing defects? What has the family done about it?

As dozens of researchers have shown, youngsters from poverty-stricken families often make poor readers. The overcrowded, noisy house with few toys or books--the unpredictable, harsh-toned parent who only rarely really talks with his child--all these take their toll on a youngster's ability to learn to read. Listening habits, speech patterns, even learning procedures may not be well enough developed to respond to traditional teaching methods. Special attention may be required.

But, authorities say, ghetto youngsters aren't the only ones whose reading skills may be inhibited by their environment. Middle-class parents who constantly reproach their children instead of encouraging them also can contribute to youngsters' reading problems. The more a teacher can find out about a child's environment, the better she is able to determine the causes of the reading deficiencies--and the sooner she is able to treat them.

What To Expect

After an initial diagnosis, chances are good that the classroom teacher will find that she has a big job ahead of her in trying to improve her pupils' reading skills. Monographs by Ruth Strang show that:

- In a typical class of 30, only about 6 to 12 youngsters will be "normal" readers, doing just about what can be expected of them, with only slight difficulties, if any.
- Between 12 and 18 pupils likely will have minor deficiencies--possibly

due to a lack of understanding of some skills--which could develop into serious problems if not given teacher attention.

- From three to six youngsters, says Ruth Strang, probably will read significantly below their classmates' level--and could need remedial instruction from a trained reading specialist.
- At least one or two, she adds, may have deficiencies severe enough to require clinical help. In these cases, there often is evidence of physical, psychological, or neurological problems.

In a 1963 study, Clifford J. Kolson and George Kaluger found that reading deficiency isn't strongly related to intelligence. Often, even average or bright youngsters can be poor readers. And in 1958, John J. Deboer reported that almost 90% of the pupils needing special reading instruction are likely to be boys. Few girls have serious reading deficiencies. In any case, one thing is clear: Nearly every research study shows that most reading problems are the result of a variety of factors. It's a rare case indeed, authorities say, that can be traced to a single cause.

One final word about diagnosis: Don't overdo it, authorities warn. "An accurate analysis of a pupil's problems can be a valuable aid to solving his reading deficiencies," says Carl Smith, "but remember, it's just a tool, not a solution." Because it's easier to conduct tests than it is to make corrections, experienced administrators say, many teachers become bogged down in analyzing pupils' deficiencies and never actually do anything about them. "The classroom teacher has to deal with the reality that she has 30 pupils and only nine months to help them," says IRA's executive secretary, Ralph C. Staiger. "Her diagnosis should be a general one--one that allows her to get on with the cure."

Choosing the 'Right' Technique

For years, educators across the country have been carrying on a running battle over just which approach is "best" for teaching reading. But today, most authorities agree that there is no one "right" technique to use. "Children learn in a number of ways," Staiger says, "and since their needs often vary, so must teaching methods."

Probably, the ideal approach would be to match each child with the teaching technique under which he learns best. But with the size and complexity of most school systems, authorities say, that's just about impossible. So, specialists now urge teachers to use several approaches. The important thing is to blend the techniques together as part of a teaching system.

In general, authorities first classify reading instruction into these three basic categories:

- Developmental--where the child begins at the level at which he reads most comfortably, and--under the guidance of the classroom teacher--moves at his own rate through a series of skills presented in a definite sequence.
- Corrective--instruction aimed at improving specific skills in which the child is weak, given by the classroom teacher to youngsters who read

below their capacity or grade level.

- Remedial--individual instruction given to pupils with severe reading problems--those who read at a level of two or more years below capacity or grade level--administered by a specialist or outside clinician.

In all these cases, authorities say, teachers use one or more of these six recognized basic approaches:

The most structured of the six--and, according to Mary Austin, the one most widely used in American classrooms--is the controlled vocabulary approach. Under this system, instruction is begun using words which pupils already know, with gradual introduction to more difficult passages.

Materials are carefully prepared to preset levels, increasing in difficulty in vocabulary, in sentence length, and in complexity. With emphasis on drill, pupils frequently read aloud. Words and sentences are repeated often to stress recognition. Research studies on the effectiveness of this technique have generally been inconclusive--mainly because many teachers don't fully understand how to use this approach.

Perhaps as structured as the controlled vocabulary approach, the programmed instruction technique plies youngsters with written exercises designed to help build reading skills. In workbooks and other prepared materials, children are asked to do such things as: "From the list of words below, pick out five that rhyme with rat." The child moves at his own pace through progressively more difficult questions, forming conclusions himself about words and sentences. One advantage to this method, authorities say, is that youngsters can see their mistakes quickly and easily--a factor that immediately reinforces the learning process. Research on this technique seems to indicate that it is just about as effective as using basal readers, but not always suited to primary grades.

In contrast to more structured techniques, the multisensory approach--sometimes called "language experience"--aims at building a variety of verbal skills at once by linking reading with writing, thinking, and talking. Combining oral and written skills, the teacher first tries to stimulate discussion on a topic she knows will draw a response from pupils, then asks the youngsters to write down what they have said and later to read it back. (One widely used technique is the "show-and-tell" session, where children are asked to bring an object to class and then describe it to the rest of the group.)

Early in the process, workbooks or preprimers are used, but later on children are permitted to choose their own materials or make up their own stories to write and reread. The technique permits almost unlimited creativity and self-expression and allows the teacher to use a variety of materials and props, but effectiveness studies have produced conflicting results.

Also in use in some schools is the individualized approach to teaching reading--another technique which allows pupils to select reading materials based on their own interests and levels. Under this system, which most often is used for mid-level grades, the pupil selects his own reading matter--usually from a group of trade books--and moves at his own rate until he is finished. The classroom teacher checks regularly on how he is doing and goes over his

problems in individual conferences. Group lessons are avoided unless the teacher finds that several youngsters need the same kind of help.

One of the newer techniques for teaching reading is i.t.a.--the initial teaching alphabet--a British-bred system that uses a special alphabet containing 18 extra characters designed to prevent confusion about how letters sound in various words. Since each symbol in the i.t.a. alphabet represents the same sound in all cases, there's only one way to interpret a letter phonetically, and advocates say it's easier for pupils to sound out--and read or write--even difficult words very early.

The special 44-character system is used only through the first grade, after which a transition is made to the traditional alphabet--usually with continued strong emphasis on phonics. The Los Angeles public school system, which has been experimenting with the technique, says the program is showing signs of success and pupils are having no difficulty in switching alphabets. Studies conducted by the National Educational Research Council show pupils who learn to read using i.t.a. to be superior to others in early stages, with no adverse effects after the transition to the traditional alphabet.

Similar to i.t.a., the Words in Color technique uses colors instead of extra symbols to specify what sounds a given letter takes in a particular word. Each of the 44 phonic sounds is represented by a different color. Advocates insist that the method increases motivation and heightens chances for pupil discovery, but reports so far have not backed up their hopes.

Each of these systems, authorities say, requires different classroom arrangements, partitioning, and grouping--so the teacher can minimize confusion and give special attention to the youngsters who need it most. Many educators believe that choosing which approaches to use is not nearly so important as making sure that the instruction itself is aimed at correcting each child's individual deficiencies. Where instruction is not "individualized," many authorities warn, slower readers often will be forced to read at their frustration levels continually in order to keep up with their classmates.

Selecting Materials and Equipment

Well prepared instructional materials and a few inexpensive electronic devices can be valuable aids for the classroom teacher who knows how to use them properly--and even can help spark pupil interest. But as PREP points out, there are few good commercial materials on the market. Many which are produced today, teachers complain, either are inadequate or uninspiring. Authorities warn teachers, therefore, to be particularly careful in choosing materials. A recent USOE report listed poor selection of materials as one of the most widespread deficiencies in reading instruction.

It almost goes without saying that the best choices are those materials which most closely meet the needs of a particular class, as discovered by the teacher in her diagnosis. As PREP points out, most prepared materials are geared to one or another of the basic techniques for teaching reading. So a teacher using several methods may want to shop more carefully. But how can a classroom teacher, who hasn't the time to pore through sample curricu-

lum guides, make the choice that's best for her pupils? One way, specialists suggest, is to seek outside help--either from the school's reading coordinator or from an experienced librarian.

There are also a number of references that evaluate books and other materials:

- Children's Catalog, published yearly by H. W. Wilson & Co. of New York, summarizes youngsters' books and assesses their grade levels.
- Good Reading for Poor Readers, revised periodically and published by the Garrard Press in Champaign, Ill., discusses book choices for specific problems.
- The Children's Library Center at the University of Chicago publishes periodic reviews and lists of good books.
- And professional journals such as Elementary English and the English Journal often contain reviews of new materials.

In many school systems, such as Richmond, Calif., teachers write their own materials, complete from curriculum guides to sample exercises. In Sarasota, Fla., teachers even devise their own diagnostic tests. With proper guidance from a specialist, PREP suggests, this kind of material often is far more effective than what is published commercially. And it has the added advantage of being tailored to specific local needs.

Besides using instructional materials, most specialists recommend stocking classrooms with small libraries from which pupils can select books for pleasure reading or free-choice assignments. A rule of thumb often suggested is three titles for each pupil--or a minimum of 100 books for a classroom--ranging in difficulty to satisfy both the most competent readers and the slower ones. And, authorities say, the best classroom libraries are those that offer books on a wide variety of subjects.

Specialists also suggest using games to help teach children to read--both as a motivational and a skill-building device. Several manufacturers offer a variety of games designed to improve visual perception as well as provide practice in word recognition and pronunciation. Or, many teachers make up their own games.

In addition to printed materials, there is an almost endless variety of electronic equipment available to assist teachers in the classroom. One of the most versatile tools, PREP points out, is a tape recorder, on which pupils can play back their own voices to compare enunciation and speech patterns.

Facilities to plug in headsets can turn a tape recorder into a teacher assistant. The teacher can record entire lessons to play to one group while she is helping another. Installing typewriters in a classroom can help sharpen interest in word recognition. Record players and overhead projectors often can be effective aids.

Also available, although much more expensive and complicated, are:

- Controlled readers--devices which display reading material at varying speeds to pace pupils and broaden the scope of what their eyes see.

- Talking typewriters--keyboards linked with tape recorder mechanisms to allow youngsters to "type out" answers to programmed questions.
- Computers--used to display questions, tally youngsters' answers at a pace set by the child himself.
- Tachistoscopes--optical devices which help retrain youngsters' eye muscles to improve coordination and eye movement in reading.

"Don't buy anything that you're not sure you'll use," most authorities advise. "Even the best gadgets are only tools," says IRA's Staiger, "not substitutes for the teacher."

Organizing the Classroom

Because reading instruction involves so much individual attention, many educators believe that reshaping the classroom in some way is a must for effective results. As PREP points out, simply rearranging the desks to group youngsters according to their reading ability--or to the exercise they are doing--can make teachers more conscious of their pupils' individual needs.

One of the simplest devices--used in Santa Maria, Calif.--is to set up a "listening post" in one corner of the classroom where individual pupils (or groups) can listen to an exercise that has been recorded on tape. In Youngstown, Ohio, teachers use movable partitions to block off classrooms into four or five separate areas--each built around a different exercise or piece of equipment--although administrators caution that this technique often requires the help of a teacher aide or assistant to work effectively.

Teachers in Flint, Mich., frequently prefer nongraded classes for reading instruction because it is easier to spot specific problems when youngsters are not all doing the same thing. Many also say the technique helps them overcome any tendency they may have to gear instruction to a grade level instead of to pupils' individual needs.

In Oakland, Calif., poor readers from two separate classrooms are given remedial instruction by a "swing" teacher assigned to both rooms. The youngsters receive individual attention on their own specific problems, then rejoin their regular classes for general skill practice. In other districts, team teaching helps solve the problem of class size.

Besides these, many districts employ teacher aides, visiting instructors, or volunteers to help in reading lessons--either by assuming some instructional duties or by relieving the classroom teacher of clerical chores. Title I Reports, published by USOE in 1967, describes these and other ways to organize the classroom.

Planning the Reading Lesson

Good organization is more important in teaching reading than in almost any other classroom subject, according to experienced teachers. Part of the reason is that reading instruction calls for so much attention to individuals and small groups that the teacher often hasn't the slack time that she might

have with a more homogeneous group. Also, because youngsters learn reading in such a variety of ways, a frequent change of pace can be a good educational tactic as well as an interest-builder. But, experienced teachers say, it all takes careful planning.

To help use lesson time more effectively--and motivate youngsters to take an interest in reading--authorities suggest these teaching devices:

- Planning periods--time at the start of each lesson when the teacher can tell her pupils what's in store for them that day--and, hopefully, whip up enthusiasm as well. During this period, the teacher can outline the routine for the day's activities, assign pupils to groups, and arrange for conferences. It is also a good chance to promote new library books, to check on which youngsters need more magazines and other materials, and to iron out group problems.
- Sharing periods--brief sessions, perhaps once a week, in which problem readers tell others in their group what they've learned from the past week's work. The idea is to show all youngsters that they aren't the only ones who are having trouble. But, those who have tried it caution, teachers should avoid seeming to single out any one pupil.
- Browsing periods--time set aside, either as part of the lesson or during the day, for youngsters to select new books and to read for pleasure. The device gives the teacher some class time for conferences with problem readers, but she should be available in case any pupil seeks help.
- Evaluation periods--catch-all sessions at the end of the reading lesson in which youngsters can review the day's activities and record their own progress. It is also a good opportunity for the class to practice some skills as a single group--a change of pace from more individualized techniques. But, authorities warn, teachers should make sure poor readers aren't left behind and better ones aren't bored.
- Special periods--many schools have found show-and-tell sessions and field trips to be valuable tools for building language skills. Teachers also may want to schedule some lesson time in which youngsters are free to choose whatever reading activities they want.
- Conferences--relaxed, face-to-face sessions with individual pupils in which teachers can pinpoint weak spots and tutor youngsters on specific problems. The sessions are also a good time to talk over attitudes, discuss books the child has read, check on results, and make individual assignments.

Because each child has different needs, some youngsters may require daily sessions while others can get by with only four or five a month. The conference can be scheduled routinely or made to seem voluntary: "Who needs to see me today?" the teacher can ask, and then suggest a few names.

The talks can be held during the planning period, or while pupils are reading independently, or--with the help of a sign-up sheet--any time during the day. Experienced teachers say they generally allot about five minutes for each child. But, they stress, it shouldn't be rigid. Some pupils demand more time.

In any case, authorities say, the teacher should try to make the conference the high point of the reading program. It is good to end the session

with some praise for the youngster's progress--to help make him eager to discuss his problem the next time it comes up.

Some teachers also use the conference technique with small groups of children, as a way to "individualize" independent reading sessions. Under this arrangement, the teacher makes the rounds in a group, talking to one pupil at a time, while youngsters continue their reading at their own rate.

Besides maintaining her own charts on each pupil's progress, the teacher may want to have the youngsters keep records of their own on their work. Less detailed than the teacher's, these might include scrapbooks of illustrations, summaries of stories, or lists of new words learned.

Also helpful for some youngsters are charts showing the books they have read, number of pages finished daily, and comparison of stories to generally recognized literary criteria.

Building Reading Skills

Before youngsters can learn to read effectively, they must first acquire some basic skills--in identifying sounds, in recognizing letters and words, and in using their eyes and hands.

Like most other educational basics, authorities say, skill building in reading is a painstaking process--one that calls for careful discipline, plenty of drill, and continual practice. But, they point out, except for occasional instances, skill building should not be separated from reading itself. Pupils should sharpen their skills as they read.

Specialists differ on just what is the proper sequence to follow in teaching pupils the basic skills. But almost all agree that a good manual from a basal reader can provide a start. The point authorities seem to emphasize most often, however, is that the program must remain flexible. No matter what, the teacher must always be ready to adapt her schedule--and her techniques--to fit pupils' individual needs.

Authorities usually group reading skills into these categories:

<u>Skills to improve perception</u>

- Auditory: matching rhyming words, identifying vowel and consonant sounds, distinguishing word variants, recognizing syllable length, accent.
- Visual: noticing likenesses and differences between capital and small letters and those of the same case; eye-span.
- Motor: developing left-right eye movement, hand-eye coordination, motor awareness, and coordination.

<u>Skills to improve word identification</u>

- Sight vocabulary and phonic analysis: recognizing consonant blends and digraphs and vowel diphthongs and digraphs.

- Structural analysis: recognizing affixes, compound words, roots, and contractions.
- Context clues: taking clues from definition, experience, comparison, synonyms, familiar expressions, summaries, reflections of mood.
- Syllabication: recognizing syllables and accent, using syllabication generalizations.

Skills to improve comprehension

- Understanding content: matching words and pictures, definitions, and word symbols; recognizing phonograms, synonyms, homonyms, antonyms. Seeing literal and interpretive meanings; using context clues; recognizing main idea, supporting details, sequence, or order; drawing conclusions.
- Improving rate: sharpening eye movement; reducing regression and vocalizing; improving phrasing; building sight vocabulary; adjusting rate to purpose.

Skills to improve oral reading

- Practice skills: pitch and volume, eye-voice span, enunciation, pronunciation, learning to relax while reading, phrasing.

Skills to improve study habits

- Organizing: arranging alphabetically, recognizing symbols, using tables of contents, taking notes, using indexes, checking facts, outlining, summarizing.
- Using the library: learning the library arrangement, using the card catalogue and vertical files, using reference books and the Reader's Guide.
- Interpreting: using pictures for information, using graphs, diagrams, maps, and time lines.

Skills to improve interpretation and appreciation

- General: inferring, spotting the author's purpose, differentiating fact from opinion, recognizing mood and figurative language, cause and effect, style.

In most cases, skill building exercises for each of these categories are available in commercially published materials, authorities say. But in some instances, teachers may want to make up their own. In its PREP series, the U.S. Office of Education has compiled a set of sample exercises to help teachers develop their own materials.

Teachers also can make up word games to help build skills, authorities suggest. Anagrams and crossword puzzles can be useful in showing how to build or change words. Youngsters can exchange cards containing words to use in sentences. Telephoning one another on play phones can encourage pupils to use language properly. Older students can file vocabulary words on index cards for later review. Classifying newspaper articles can help build organization skills.

Special Problems

Sometimes a youngster's difficulty in mastering reading skills will stem more from physical or environmental factors than from educational ones. A child who can't see well enough to discern letter differences naturally isn't going to be abl to recognize words. A youngster who has trouble hearing will not pick subtleties in sounds. Similarly, children from disadvantaged families may be handicapped by a lack of cultural enrichment. These youngsters all need mpt diagnosis, authorities say, and special help.

It usually sn't too hard to spot youngsters with seeing or hearing problems. Ofte they show symptoms which should give any alert teacher all the clues she needs. Pupils with visual problems may have short attention spans, frequently reverse letters, and read painstakingly, word by word. Their eyes may be teary. And they may complain about dizziness or blurring. Those with auditory difficulties often find it hard to differentiate among similar sounds. They may seem inattentive in class, and they often fail to follow spoken directions.

To test for visual problems, the teacher might ask a pupil to choose the two like figures from a series of geometric designs--or perhaps to draw them on the blackboard. To test for hearing problems, she might ask the child to listen to a series of similar-sounding words--such as bat, bet, bit, and but--and to describe their differences (in this case, the change in vowel). For a more effective diagnosis, there are tests available: The Frostig Visual Perception Test and the Wepman Auditory Discrimination Test. Either can be administered easily by the classroom teacher.

There are several devices that teachers can use to help youngsters who have auditory or visual problems--specially prepared tapes, filmstrips designed to improve perception, therapeutic games, and electronic instruments, such as controlled readers. Authorities warn that if corrective techniques don't seem to work, the teacher should consult the school's reading specialist for advice or talk with the child's parents about seeing a physician.

Generally speaking, authorities say, pupils from disadvantaged homes are more likely to be poor readers than other youngsters are. As researchers Martin Deutsch and David P. Ausubel have reported, a poor home environment can inhibit the growth of vocabulary and even stunt the very thought process that lies behind language development. Ghetto youngsters may have difficulty in handling abstract symbols, maintaining thought sequences verbally, interpreting what they experience, and communicating what they feel. In addition, they often show poor self-images and little motivation to learn.

Unlike problems of hearing and vision, there is not much a teacher can do about a youngster's community or home environment--short of talking with parents to offer some suggestions. But there are devices which she can use that seem to work better with disadvantaged youngsters. Special materials are available commercially, and federal agencies can supply some help.

Some teachers--such as those in San Francisco--use field trips to spark language development in children from poor families. The youngsters are provided with an experience about which they later can talk, write, and read.

Sites are chosen carefully to fit into the curriculum. Later, teachers use audiovisual materials to reinforce what pupils have seen. Also successful in some cities has been the use of tutors from the children's neighborhood who can give the youngsters extra help and perhaps draw them out more effectively.

Avoiding Common Pitfalls

Authorities say the two mistakes teachers make most often in trying to teach reading are failing to attack the problem methodically, and refusing to admit their own limitations. Instead of tailoring exercises to fit pupils' needs, PREP says, too many teachers simply ask the child to do some practice activity that "seems somewhat related" to his apparent weakness, without trying to find out if other, more basic skills also need improvement. Then, too, says Staiger, some teachers go ahead with activities that they call corrective, but which really aren't related to any sequence of reading skills. "They just give the pupil a programmed instruction book," he says, "and ask him to complete a lesson. They don't bother to check first whether any of the exercises repeats skills which the youngster already has mastered, and don't check later to see what progress he has made."

Then, too, some teachers refuse to recognize their own limitations--both in time and in expertise--and erroneously try to handle complex physical or psychological problems which should be referred to a specialist or a clinic. As Ruth Strang has pointed out, in almost every classroom there are some pupils who should be given remedial instruction or clinical training, either on a full- or a part-time basis.

Once a specialist has been assigned to work with the child, says Staiger, the teacher should provide the specialist with as much information as she can about the youngster's difficulties and past performance. Especially if the remedial training is only part-time, the teacher will want to work closely with the reading specialist so the corrective work can complement what the child receives in the classroom.

Here are some of the staff members many school systems have provided to help improve their reading programs:

- Reading coordinator--full-time consultant serving an entire school or school system to help teachers handle problem cases and generally upgrade reading instruction. Helps diagnose difficult cases, serves as curriculum adviser, conducts inservice training for teachers, and talks with parents about special reading problems.
- Reading specialist--instructor specially trained to teach remedial reading. Works with problem youngsters in a separate classroom, or acts as visiting teacher.
- Teacher aides, volunteers, and student tutors--laymen who work with the classroom teacher, handling routine instruction or administrative chores, to give her more time to teach.

"In most systems," says Indiana U.'s Smith, "these staff personnel are there to help the classroom teacher, both in diagnosing deficiencies and in preparing treatment. Use them," he urges.

Checking on the Results

Once the school year has begun, authorities say, one of the classroom teacher's most important jobs is that of evaluation--both of the performance of the pupils and of the effectiveness of her own teaching techniques. Too often, PREP says, teachers take a pupil's initial score on a group survey test as a measure of his "permanent" reading level--seeming to ignore the possibility that the youngster's proficiency may improve.

In the same way, educational critics say, some classroom teachers seem to believe that any technique they decide upon is sure to work. The fact is, however, no one technique seems to work in all cases. As a result, specialists stress that continuing reevaluation is necessary if a reading program is to work effectively. The teacher must be alert to needs, and ready to make changes.

PREP suggests that teachers can evaluate their pupils' progress by keeping tabs on the daily checklists which they prepare on youngsters' performance, or by administering informal group tests at regular intervals. The reading coordinator of specialist also can help in evaluating teaching techniques and in suggesting ways to improve instruction.

WHAT ADMINISTRATORS CAN DO

Most educational authorities look to the administrator as the prime mover in any school reading program--because of his position and of his opportunity to see both school and community needs. First, points out former Indiana U. Dean Henry Brickell, the administrator usually is the only member of the school system staff who has the power to set new programs in motion. In most districts, only he has the authority to make the decisions needed to upgrade instruction: to set objectives, to get people working together, and to provide space and equipment.

Then, too, says PREP, it is the administrator--the superintendent or principal--who sets the tone for the program: "The learning climate is established to a large extent by him.... (His) attitude, usually highly contagious, will determine to a great degree the attitude of his staff."

Finally, authorities say, because he is usually the recognized spokesman for his school or district, the administrator is in the best position to enlist the support of the local community--a factor many educators consider essential for an effective reading program. It is the administrator who can best "sell" the reading program to the local community, who can pull together the resources of outside civic groups, and, perhaps most important of all, who can get parents involved.

Naturally, in almost every school system there will be some limitations on what the superintendent or principal can do. Many districts just don't have the money to set up an elaborate reading program. In others, a shortage of staff or lack of expertise may hamper the administrator's efforts. But, as educators across the country are proving every day, almost every school can do something to upgrade and strengthen its existing reading program. The

important thing is not to wait, urges Indiana U.'s Smith. "The administrator," he says, "cannot sit by...for the final and ultimate panacea. He can--and must--act now."

Here are some concrete steps extracted from the PREP series and other sources which administrators can take to improve reading instruction:

Surveying the School's Needs

Before trying to set up any reading program, authorities say, the school should make a thorough survey of how well its pupils read and what skills they need to improve. The idea is to learn as much as possible about the youngsters' reading deficiencies and what is causing them so the program can be tailored to meet their specific needs.

PREP suggests these steps:

- Administer standardized reading achievement tests to all pupils in the school to help pinpoint those who need help most. (Examples are the Gates Primary Reading Test, the Iowa Tests of Educational Development, the Stanford Achievement Tests, and the California Reading Tests.)
- Compare the results with those from standardized "intelligence" tests, which measure pupils' potential, to determine which youngsters probably are not reading as well as they should.
- Ask teachers to make informal inventories of the reading skills of their pupils and to combine them with their observations of the youngsters' performance to recommend which children need special help.
- Give those youngsters who display reading deficiencies individual diagnostic tests to pinpoint skills in which they are weak. These should be administered by a reading specialist. Also, test pupils for visual perception and auditory discrimination. (Examples of diagnostic tests are the Durrell Analysis of Reading Difficulties, the Spache Diagnostic Reading Scales, and the Gray Oral Reading Test. Examples of visual and hearing tests are the Frostig Visual Perception Test and the Wepman Auditory Discrimination Test.)
- Carefully consider environmental factors which may affect youngsters' reading ability.

Results can vary widely from school to school, but researchers generally expect that at least 10 to 25% of the total enrollment will need remedial instruction and 1 to 5% will require clinical care. Usually, authorities say, from 40 to 60% of the school population can be helped through improved instruction right in the classroom.

The full bevy of tests and evaluations is likely to be time-consuming and can be costly, but experienced administrators say it is not only valuable in planning, but worth repeating every year. Besides helping to screen youngsters for various programs, the tests can assist specialists in choosing new materials, in revising the curriculum, and in evaluating various techniques.

Authorities caution, however, that many tests are highly sophisticated and require a skilled reading specialist--and adequate time--to interpret

the results. Even if a school has no specialist available, PREP suggests, it can--and should--hire a consultant for the job.

Many specialists also warn against placing too much emphasis on group standardized tests, which often are extremely limited in scope and aren't intended for diagnostic purposes. Although most reading achievement tests have sections on vocabulary and paragraph comprehension, PREP says, they only estimate how a child compares with a national "norm," and can't pinpoint specific weaknesses.

Further, authorities point out, what is the "norm" for the nation may not be a realistic standard for some districts or schools, and officials may have to devise a local percentile system to fit the area. Likewise, a district may decide that a standardized test doesn't measure the kinds of reading skills that it wants to test. If schoolmen feel that other factors are more important to their program, PREP says, they should devise their own tests.

Planning the Program

The worst thing a superintendent or principal can do in trying to set up a school reading program, authorities say, is to plan it himself and then mobilize the staff to carry it out.

First, says Indiana U.'s Smith, few administrators have the technical expertise about reading instruction--or even the time--to develop a sound program and curriculum. Then, too, experienced schoolmen point out, making sweeping changes in any area and trying to impose them on the teaching staff often stir resentment, and can hurt the program.

PREP suggests bringing in all staff members who will be involved in the program early in the planning stage--principals, reading coordinators, special consultants, remedial instructors, and classroom teachers. The administrator may also want to discuss plans with neighborhood groups, professional associations, and parent organizations, whose support he may want--and need --once the program gets going.

Those who have developed reading programs in their schools caution that administrators should allow staff members ample time--free from their regular teaching duties--both for planning and for later evaluation. Specialists and teachers can't do as effective a job of setting up a program and planning the curriculum if they are burdened down with classroom chores.

In planning the program, educators suggest, the staff should set concrete objectives--precise statements of what it hopes to accomplish in each phase and activity. "It is not enough simply to establish as an objective 'The Improvement of Reading' or 'The Raising of Test Scores,'" PREP says. The goal should be specific. For example, in a program to encourage home tutoring, an objective might be to make every parent able to go through a simple reading and comprehension exercise with his child after a visit from a school aide.

To be of most value, authorities suggest, objectives should be based on those factors which specialists believe are causing youngsters' reading prob-

lems in a particular school--lack of motivation, low self-image, poor home environment, or physical or psychological defects. They should be written, says PREP, in terms of what results teachers expect to see once pupils have gone through the program. Exactly what should the youngster be able to accomplish after each segment or phase?

Also, authorities say, good programs should be aimed not only at improving skills but also at changing pupils' attitudes toward reading as well. "Many children who cannot read," says IRA's Staiger, "are convinced that they cannot learn." If their own impressions are not corrected, he says, the youngsters are unlikely to continue to progress after they leave remedial classes.

Educators say it is too early to tell just which of the recognized approaches to reading instruction is most effective. The best solution, most authorities now suggest, is to try several different techniques. The important thing, however, is that once the approach is decided on and the procedures are clarified, specialists and teachers must have freedom to operate. "The administrator's job," says Staiger, "is to keep people working together."

Bringing in the Community

Educators say the chances that a child will respond well to a reading program are far greater if the school can enlist the help of his parents--no matter what their educational level. A 1962 study by Frank Riessman, Bard College psychologist, found that a youngster's motivation--and his achievement--are clearly related to the way his parents view their own role in the child's education. And especially in reading, where environmental factors have such a significant effect on improvement, what is accomplished in the classroom can easily be lost unless it is reinforced at home.

Probably the most obvious way to get this message across to parents is by addressing them at neighborhood meetings--through civic organizations, luncheon groups, or the PTA. But as PREP points out, while these activities are necessary, they don't always reach parents whose jobs or shyness keeps them out of community life--often those whose help is needed most. In some cases, mothers just don't realize that they can or should be of help. Others think of a visit to the school only in terms of trouble--a place to hear a teacher's complaint or a bad report.

To overcome these obstacles, many districts have developed well planned community involvement programs to invite parents into the schools, to tell them about the reading efforts, to show them how they can help their children at home, and in some cases to recruit them as part-time teacher aides and neighborhood workers.

In Detroit, one alert principal who realized that migrant families were often apprehensive about visiting the school set up a special room--complete with lounge chairs and coffee pot--where parents and teachers could get together. Word got around--and the local community became more involved.

Some districts prepare special evening classes to show parents how they can help their youngsters. In Riverside, Calif., schoolmen produced a color

movie explaining the district's reading program. In Los Angeles, one school offered a 16-week course on what parents could do to help boost pupils' reading ability. Despite sessions as long as 2½ hours, the class had almost no dropouts.

Frequently, a home visit from a reading specialist can help change environmental deficiencies. In Los Angeles schools, remedial teachers make regular rounds in their communities, offering suggestions on how parents can provide youngsters with more reading materials, opportunities for conversation, home tutoring, and extra encouragement.

In Ypsilanti, Mich., teachers invite parents to go with their child's class on field trips to learn how to draw out a youngster's expression and gather ideas for home exercises. Also valuable, PREP says--especially in Spanish-speaking communities--are neighborhood aides who can speak the language. Parents sometimes are less afraid to talk frankly with school representatives whose backgrounds are similar to their own.

Besides parents of poor readers, administrators suggest, principals may also want to "sell" the reading program to community groups which may be instrumental in influencing general support for the school's efforts. Good programs take some money--and that involves community support and goodwill.

Also, many principals find that community groups are willing to help provide outside tutors or teacher aides if they are approached properly. Princeton, Minn., for example, has recruited volunteers from the Future Teachers of America local chapter to help its regular staff in the reading program.

The job of bringing in the community isn't always easy, warn administrators who have tried it. Often parents resent being "told what to do" about their children. Sometimes teachers feel their professionalism is "threatened" by the intrusion of laymen into the classroom. And, as community action programs have shown, bringing residents into the planning process sometimes invites controversy. But most authorities today believe the effort is worth the controversy. "Without the support of the people in the community," says Staiger, "what the children receive in class often can be wasted."

Building the Staff

Besides regular classroom teachers, authorities generally list three other staff posts as essential to an effective reading program:

- The reading coordinator: supervisor of the entire reading program, directly under the superintendent or principal. Serves as curriculum adviser, conducts inservice training, and talks with parents.

- Reading specialists: at least one for each school. Instructors specially trained to teach remedial reading. Handle problem cases, sometimes work with classroom teachers to upgrade instruction.

- Teacher aides: either part-time or full-time. Assist classroom teachers with minor instructional duties, or relieve them of clerical chores.

In addition, PREP suggests these other possibilities for a larger system:

- Consultants: full-time staff members. Perhaps assistant superintendents or curriculum directors who work with existing staff to help set up the reading program.

- Clinicians, school psychologists, therapists: help diagnose severe reading disabilities, work with youngsters who show physical, psychological, or neurological problems.

- "Swing" teachers: additional teachers who rotate among classrooms to help with reading instruction. In Cedar Falls, Iowa, "swing" teachers are assigned to provide intensive instruction to groups of poor readers from two classrooms.

- Tutors, home-school coordinators, neighborhood workers: older students or parents who help youngsters outside of class, visit families to show parents how to reinforce what pupils learn in school.

Probably the greatest problem the administrator will face in staffing the program, authorities say, is finding reading specialists. In most sections of the country, educators report, persons knowledgeable in reading instruction are in short supply. Many school systems that are unsuccessful in recruiting reading specialists find they must train their own.

Once the staff has been hired, authorities say, the administrator should be sure everyone has a clearly defined job. The principal himself has an important role, educators suggest--to see that channels are open for specialists to communicate with classroom teachers and to gain access to records.

Those who have established successful reading programs warn that all program personnel, especially those involved in the remedial phase, must be given adequate time for planning and conference periods as well as for individual instruction. In the most effective programs, PREP says, reading teachers have "no duties other than those related to their major work."

Authorities generally recommend assigning remedial teachers to no more than 5 one-hour classes a day--or a maximum of 50 pupils--to allow time for record-keeping, looking for new materials, and coordination with the classroom teacher. The last is especially important, says PREP: Remedial and classroom teachers must have time to compare notes so the classroom teacher can reinforce what goes on in the remedial class. And the remedial instructor often can make use of the classroom teacher's observations about a youngster's attitudes and individual interests.

Once the program is under way, authorities suggest, it is a good idea to make periodic checks of teachers' performance. While in past years educators generally assumed that poor reading always stemmed from the pupil's deficiencies, administrators now realize that at least part of the problem could be the teacher herself. "There is no question that teacher competence in reading is a major factor in some children's inability to read," says Indiana U.'s Smith. "Sometimes the personality traits of a teacher can even impede a child's learning."

Experienced administrators say it may help to observe teachers as they conduct their classes, watching carefully for indications of teaching skill, knowledge of reading, emotional stability, and other factors. The reading coordinator has been assigned this job in many districts.

Getting Outside Help

Because a good reading program requires so much individual instruction, it is likely to strain the staffing ability of almost any school system--even one with a large number of qualified teachers. Despite extensive reorganization and the use of central materials specialists and "swing" teachers, schoolmen often find that they don't have the resources available to handle all staffing problems.

Many administrators are turning to outside sources for help in staffing secondary posts--part-time instructors, at-home tutors, and teacher aides. In some cases, these "paraprofessionals" can take over minor instructional duties under the direction of the classroom teacher. In others, they perform only the routine chores--leaving the teacher with more time to teach.

In Santa Maria, Calif., teacher aides rotate among elementary school classrooms, spending two hours in each, to relieve teachers of clerical work. In Youngstown, Ohio, aides help carry out the lesson plan--by setting up flash-card games, giving pupils directions, reading stories, or monitoring tape-recorded exercises.

In Detroit, Mich., the shortage of reading instructors has prompted the district to look to retired teachers for help. More than 30 former classroom teachers--specially retrained in reading techniques--now come back for two days a week to conduct remedial classes and provide small-group instruction.

Some districts are using students to tutor younger pupils. Teacher interns from Northeastern U. are helping high school students in Boston and Revere, Mass. In New York City, fifth and sixth graders are tutoring 7-year-olds under a program sponsored by Hunter College.

Many schools also use neighborhood residents as aides or at-home tutors. Officials from these districts report that pupils often feel more at ease with tutors whom they know or have seen before.

Authorities caution, however, that too often administrators fail to provide enough time for teachers and paraprofessionals to coordinate their efforts--resulting in inefficiency and wasted time. Also, they point out, teachers must be trained in how to use a classroom assistant to best advantage--a good subject, some suggest, for an inservice training program.

Locating the Facilities

Finding the space to house a remedial reading program is a problem in most schools. In some districts, space has been in such short supply that administrators have had to schedule class meetings in hallways and boiler

rooms. In others, reading specialists have been assigned "offices" in janitors' closets.

But these solutions, while admittedly only emergency measures, clearly do not provide a good learning environment--particularly for teaching reading, where success depends so much upon psychological factors. It doesn't take elaborate facilities to run an effective reading program. But specialists stress that reading instruction does have some special needs--and facilities should be carefully planned to fill them. Even under a minimal program, authorities say, principals probably should expect to provide:

- Classroom space for remedial training: well lighted rooms, wired to accommodate some electronic equipment, preferably carpeted and windowless to minimize auditory and visual distractions.

- Offices and conference rooms for coordinators, resource specialists, and remedial teachers--complete with facilities for inservice training sessions and storage areas for books and equipment.

- New arrangements in regular classrooms--perhaps some movable partitioning --to help teachers handle several small groups and special equipment.

Although some expense is inevitable, providing facilities for a reading program needn't involve costly new construction. In many districts, administrators have simply remodeled older rooms--or an unused portion of the gymnasium--by improving the lighting, partitioning off work areas, and installing acoustic paneling. In others, officials have brought in portable classrooms--either house trailers or prefabricated modules.

One point that many specialists make is that pupils seem to respond more enthusiastically if interiors are bright and attractively decorated. "If the room is bright and cheerful," says IRA's Staiger, "the youngsters learn to look on the reading lesson as a treat. They don't feel as much of a stigma about remedial sessions."

To help tailor facilities to instructional needs, authorities generally agree that it is a good idea to include specialists and remedial teachers in the designing of the interiors early in the planning stage. In that way, say experienced administrators, teachers can help plan their classrooms to accommodate the techniques and equipment they will use--and perhaps save some money by pointing out items they don't need.

Buying Materials and Equipment

The kind of materials and equipment that a school needs for its reading program will depend largely on what kinds of problems its pupils are found to have, and on what steps specialists think it will take to solve them.

In any case, authorities seem to agree on two basic points:

- Materials in a remedial program should be different from those with which the child has already failed in the classroom.

- The greater the variety of materials, the more likely the youngster is to find some that both interest him and fit his needs.

There are some materials produced commercially to complement almost every recognized approach to reading instruction--ranging from basal readers and filmstrips to specialty games and audio tapes. Industry also has developed a number of electronic devices to help retrain eye muscles, improve coordination, and speed reading pace.

But as PREP points out, it isn't easy to find out about good materials and equipment or to learn how effective they really are. Too many schools rely on company salesmen for information. Naturally, these men tend to be biased.

Indiana U.'s Smith suggests that administrators leave the choice of specific materials and equipment up to reading coordinators and specialists. "They are the ones," he notes, "who are going to have to use it."

Also, he recommends, administrators should give reading coordinators the time and money to travel to conventions and to visit schools which already are using certain materials and equipment--so they can talk with other specialists about which ones are most effective.

In some cases, after surveying the market, teachers may find that none of the materials available seems to meet the needs of the school's reading program, and decide to develop their own. Such projects have been successful in many districts, with school systems paying teachers on a curriculum committee to prepare the materials, and then reproducing the lessons and exercises for the entire district to use.

Besides regular instructional materials, authorities urge, schools should provide plenty of books and magazines for pleasure reading--both for remedial and regular classes. PREP recommends a minimum of 100 books for a class of 30 in a typical elementary school. Remedial classrooms also should be stocked with outside materials.

The cost of all this equipment, particularly for a remedial program, is likely to surprise someone who hasn't priced it before. While other textbook purchases often can run as low as $3 a pupil, Carl Smith estimates that it takes from $2,000 to $3,000--at 1970 prices--to equip one remedial classroom with basic facilities.

But, he points out, at least some of this figure is for electronic devices, such as tape recorders and audiovisual equipment, which are one-time-only expenses and can be paid in installments over several years. And federal aid is available for a good portion of the cost of the reading program.

Training Teachers and Specialists

Few classroom teachers have any real idea of how to teach reading. Teachers colleges traditionally have given short shrift to reading instructional technique, and those teachers who do acquire expertise in the field frequently are hired away as coordinators or specialists--also in short supply.

As a result, many districts have turned to training their own personnel: The Buffalo, N.Y., school system maintains a citywide reading center to train prospective reading teachers--and gives them time off from classroom duties to attend the course. Officials in San Diego, Calif., have arranged for instructors from a local college to conduct courses in reading instruction--right in public schools, so teachers don't have to travel.

But the plan authorities recommend most widely--both to train regular classroom teachers and to keep specialists up to date--is a good inservice training program. Besides being economical, says Smith, it can be tailored to the exact objectives and levels that the school is trying to meet. And it can be fitted into the local schedule without disrupting regular classes.

In most schools, the content and scope of the inservice training program are left to the reading coordinator. But authorities generally suggest that it include sessions on diagnosis and testing, use of equipment and materials, instructional techniques, how much to expect from youngsters, and evaluating and reporting progress.

As PREP points out, a good inservice training program also provides an important side benefit: It gives classroom teachers and specialists a chance to get together and coordinate their efforts. Remedial instructors can explain what they're trying to do, and how the classroom teacher can reinforce it during the lesson period. At the same time, classroom teachers have an opportunity to speak out if they feel that portions of the school's remedial program are not compatible with classroom instruction. The result: better coordination between the remedial and developmental programs.

Building a Balanced Program

To build a really effective reading program, authorities say, administrators should attack the problem on as many fronts as school resources will permit. Here, drawn from PREP, are some suggestions for a more comprehensive program:

- More individualized classroom instruction, tailored to small groups, designed both to correct existing reading deficiencies and to prevent others from developing.

- Remedial classes--at least 2 one-hour sessions a week, scheduled during regular language arts periods so pupils don't miss other classes--to deal with more serious reading problems.

- Compensatory classes in which teachers help problem readers "catch up" in other subjects where reading deficiencies have held them back.

- Prekindergarten programs, designed to acquaint youngsters with the alphabet and improve their self-expression--factors which authorities say can give pupils a valuable head start in learning to read.

- "Half-step" grades, where poor readers can receive intensive instruction for part of a year and then be returned to their regular classes.

- Summer enrichment programs, where school districts use vacation months to help youngsters improve their reading.

- Home tutoring programs, where part-time or volunteer aides visit youngsters and parents at home to show them how they can reinforce classroom teaching.

- Peripheral programs designed to help make up for environmental deficiencies--such as a free breakfast program for youngsters from poverty-stricken families.

Handling Problem Cases

In almost every school system there are bound to be some youngsters whose reading problems are so deep-rooted that even remedial instruction won't help. These are the "severely disabled" readers whom researcher Ruth Strang has pointed out--the 1 to 5% of the student body who suffer from impaired vision or hearing, speech defects, psychological problems, and nervous system malfunctions.

In most such cases, specialists say, the pupil is plagued by a whole series of problems--poor auditory and visual discrimination, memory and association deficiencies, psychomotor disturbances and accompanying emotional strain. Despite such precise-sounding terms as "dyslexia" and "minimal brain damage," authorities say there often is no way to pinpoint any one cause--or to prescribe a single treatment.

"Often what is needed," says Indiana U.'s Smith, "is a multidisciplinary approach"--one that involves not only reading specialists but also psychologists, speech therapists, social workers, and others, coordinating their efforts as a team to help solve each youngster's specific problems. The answer, many schoolmen believe, is in a well equipped, highly specialized reading clinic--a new, but promising addition to many district reading programs.

In a typical clinic, administrators report, a youngster referred by his teacher and principal is given batteries of tests--lasting anywhere from a few hours up to two full days--to pinpoint his deficiencies and diagnose his physical problems. Included are tests for intelligence, reading achievement, spelling, auditory and visual discrimination, learning aptitude, lateral and perceptual motor coordination, and social and emotional adjustment.

After the testing, clinicians interview the child's parents, compiling a first-hand report on family circumstances, school history, home habits, and even prenatal care. With the help of psychiatrists and other specialists, the clinic team prepares a detailed diagnosis in a form that both teachers and parents can understand. It also makes suggestions on what teachers, tutors, and parents can do to help the child overcome his specific problems.

At this point, the clinic staff has several alternatives: In cases where the pupil's disability isn't too severe, it may decide to return him to his remedial reading or classroom teacher--along with some specific suggestions for corrective techniques and appropriate materials. Where treatment is more

involved or complicated, the youngster may be asked to return to the clinic for intensive instruction for hour-long periods two or three times a week.

In more severe cases, authorities say, it is often best to take the youngster out of the school entirely for several months or more for full-time, day-to-day instruction at the clinic. Children with severe physical problems or emotional disturbances, on the other hand, may not be able to benefit from clinical help. The staff may recommend that they seek medical or psychiatric help--either concurrently, or before trying to improve their reading skills.

With such intensive instruction, educators report, reading clinics often can accomplish what classroom teachers never could. A junior high school student in DeKalb County, Ga., tutored in that system's reading clinic, jumped from second-grade level to seventh after only 50 hours of clinical help. Another student, a teen-ager reading at the preprimer level, improved his skills enough over 2½ years to pass his exam for a driver's license.

Until recently, however, only a few school districts even considered setting up such clinics--primarily, administrators point out, because of the admittedly high cost. The basic equipment needed to test problem youngsters --let alone that required for treatment--can run more than $2,000 a set. School districts which have set up reading clinics have reported initial expenditures ranging from $40,000 to several hundred thousand dollars.

But today, educators report, with as many as 750 youngsters out of every 15,000 in need of clinical help, school districts are finding new ways to cut costs. To begin with, as Smith points out, there is federal aid available to cover a good portion of the clinic's cost.

Then, too, many districts have found they can reduce costs by operating "regional" reading clinics with neighboring systems or groups of private schools. And new construction isn't necessary, specialists say. Often a remodeled old building, a trailer, or modular classrooms will serve the purpose.

Finally, as many districts have demonstrated, clinics can perform other jobs to help justify their initial cost besides simply treating pupils. DeKalb County's facility also trains classroom and remedial teachers--about 7 to 10 of them every nine weeks. Under the supervision of specialists, each of the trainees is assigned to one child. Over the weeks, she receives practical experience in diagnostic and remedial teaching--a valuable asset to the school system in an area where teacher specialists are hard to recruit.

In Bell Gardens, Calif., clinicians not only prepare remedial teachers but also conduct inservice training programs, enrichment classes for brighter youngsters, and research projects designed to evaluate new materials and equipment. Other clinics provide diagnostic and consultant services.

In setting up a clinic program, authorities say, administrators must first make some basic policy decisions--about which schools and grade levels the facility will serve, what functions its staff will perform, and which youngsters it will attempt to treat. PREP recommends setting up an advisory committee of administrators, teachers, and specialists, and hiring a director, early in the planning stage, to help in determining the scope and operations.

Administrators whose districts are operating central clinics say the problems in establishing such facilities are similar to those involved in setting up a remedial reading program--except for the personnel and the special equipment.

Assembling the staff, some say, may be the most difficult problem. Not only does the clinic need psychologists, therapists, and social workers--already in short supply--but it needs those who are trained in handling reading disabilities. Couple that with the fact that often clinical treatment must be given on a one-to-one, pupil-teacher ratio--especially in the early stages --and the problem can become acute.

DeKalb County's solution to the problem was to send two of its principals through a university doctoral program in reading instruction and then hire them to run its clinic. Others have hired a director and a few key staff members, who in turn trained outside specialists to deal with reading problems. In Arkansas, the state university medical school has trained 100 members of the Federated Women's Club to administer diagnostic tests, which are then scored and interpreted by staff psychologists--a partial relief for regular clinicians.

Despite the need for trained specialists--and the necessity for low pupil-teacher ratios--clinic staffs needn't be large. The Columbus, Ga., clinic program, serving a heavily populated county, has a director, five specialist examiners, nine remedial teachers, four secretaries, a part-time typist, four bus drivers, and a part-time maid. The Philadelphia, Pa., clinic program, however, is carried out by two directors, five teachers, and a secretary. The professional personnel each perform several jobs.

Besides the central clinic, many districts establish "satellite" branches in local schools--designed to carry out treatment once the clinic staff has diagnosed the case. In Broward County, Fla., administrators have developed a mobile clinic--housed in a trailer--which visits schools at scheduled times to diagnose pupil problems and to conduct training sessions for teachers. Educators report the technique is especially valuable in districts where schools are widely scattered.

As might be expected, authorities recommend a full range of sophisticated equipment--not only for diagnosing deficiencies, but for treating them as well: audiometers, optical measuring devices, instruments for checking motor coordination, and a variety of games and materials designed to build skills and increase perception.

Administrators with limited funds and staffs may want to narrow the scope of the clinic--either by cutting down on the kinds of services it offers or by restricting the type of cases it will handle. The Buffalo, N.Y., program accepts only those youngsters in the second through sixth grades who are bused to the center daily for 30- to 60-minute sessions with the clinic staff. In Robbinsdale, Minn., three reading centers serve 180 students in grades 2-4 for daily 90-minute sessions in small groups of four to eight. Specialists say that in restricting grades, it's best to take the younger pupils into the clinic first, since early treatment of reading disability is the best hope for effective cure. As resources increase, the program can be expanded.

In basing admission to the clinic on the severity of a child's disability, authorities warn against setting any rigid policy--either at the top or the bottom of the scale. Often, even average or above-average readers can benefit from clinical help, says IRA's Staiger. "At the same time," he adds, "even those described as 'educable mentally retarded' often can be helped by the right techniques."

Because of this, authorities caution against relying too heavily on any one test--especially those based on intelligence or ability to read. Nor should the criteria be based solely on the difference between reading performance and potential, PREP says. If a clinic accepts only those who are two years behind or more, then no treatment could begin before the youngster reached third grade--a time many say is already too late. Most authorities agree that it is as serious to be six months behind in the second grade as it is to be two years behind in the eighth. Therefore, they recommend a sliding scale, tailored to the youngster's grade level, and type of disability.

Once diagnosis has been made, it's important, authorities say, for the clinic to follow through--whether or not its own staff or the child's school is to carry out the treatment. The youngster's remedial and classroom teachers should be informed of all test results and given specific suggestions on what techniques to use. Also, authorities say, a youngster returned to the school for treatment should be sent back to the clinic every six months for another battery of tests--to evaluate his progress and revise training procedures if necessary. Results of such testing usually are sent to teachers and parents as well.

Almost all authorities in the field stress the need for coordination among the clinic, the teachers, and the youngster's parents. In Downey, Calif., administrators consider this factor to be so important that they even assign substitute teachers to travel on the mobile clinic so they can take over regular classes while classroom teachers observe testing and diagnosis of pupils.

Usually, says PREP, the most difficult part of any corrective program is making sure that the clinic's activities are coordinated with those of the regular school program. PREP recommends assigning a top-level administrator to make sure channels are kept open. Often principals are reluctant to release classroom teachers for training at clinics. The teachers themselves may be hesitant about letting children leave classes for instruction. Parents who don't fully understand what the clinic's purpose is may feel ashamed at having their children assigned there. Even the youngsters may be reluctant to attend training sessions if the periods are scheduled during classes they enjoy.

Following Through

In schools that have remedial classes, authorities say, one of the most frequently noticed deficiencies is the failure of the specialist to follow through on a youngster after he has completed the program. Too often, the pupil is sent back to his original classroom teacher with no prescription for reinforcing what he has learned. As a result, he often forgets it and the program is wasted.

PREP suggests making sure that remedial specialists regularly provide classroom teachers with specific plans for youngsters who complete such instruction, showing how to help the pupil retain his skills. A return visit to the remedial instructor after six months or so--for additional tests and interviews, just as the clinic does with more severe cases--can help staffers keep tabs on how well the program is working.

In the same way, PREP suggests, the entire school reading program--not just the remedial and clinic portions--should be reevaluated continually and revised where necessary. The same tests and observations which staff members used before planning the program can be just as effective for evaluating its results.

Authorities caution that imprecise interpretation of test results frequently prompts exaggerated reports of the program's effectiveness--a delusion that only hurts the pupils eventually. An accurate analysis is essential to a good program.

Once the evaluation has been completed, authorities suggest, the administrator may want to release the results in a report to the school board and to parents. As Indiana's Smith points out, even statistics which show pupils are reading poorly can be used to argue for enough funds to improve the average. And many administrators have found that keeping parents fully informed about the reading program gives them a more positive attitude about it, and may help erase any stigma that youngsters might feel.

As more and more administrators are finding, public opinion these days is more apt to blame the schools for poor reading performance than it is to blame the pupil.

WHAT HIGH SCHOOLS CAN DO

Until only a few years ago, most educators considered reading instruction to be a job exclusively for the elementary schools. As Colorado State English consultant Betty Gibson describes it, the theory was that "the student in the elementary school learned to read, and the student in the secondary school reads to learn." Once a pupil had been taught the basics, the rest would be just a matter of practice. No further instruction was necessary.

But today, confronted by a growing number of high school students who can't read, more and more teachers and administrators are realizing that there is work to be done in the high schools as well. "Gradually," says Jo Stanchfield, an Occidental College reading specialist, "authorities...are coming to the conclusion that reading...must be studied and taught throughout a student's life...even into adulthood."

Authorities generally list these steps that high schools can take to start--or upgrade--their reading programs:

- Hire a fully trained reading coordinator--a specialist who will be able to develop a program, select and prepare materials, supervise remedial instruction, diagnose student deficiencies, and help all teachers--

including those in subject-matter areas--to upgrade reading instruction in their classes.

- Set up a schoolwide reading center--equipped to handle above-average students as well as slower ones--where youngsters can sharpen their reading skills under the guidance of a trained specialist.

- Institute a no-nonsense remedial program--staffed by specialists--under which youngsters diagnosed as problem readers can be given intensive individual instruction designed to help them catch up on basic skills.

- Infuse regular English courses with developmental reading instruction to train students to adjust reading rate to content, to use textbooks more effectively, to analyze and interpret more quickly, and to get more out of reading.

- Set up a faculty reading committee--including the principal, the reading coordinator, and teachers from each subject-matter department--to go over language problems in each course area and to develop suggestions on how to meet them.

- Show all teachers--even those specializing in math or physical education --how to work reading instruction into their class presentations and how to shape assignments to class needs.

- Assign responsibility to all teachers--those in content areas as well--for working to improve youngsters' language skills in their own subjects, as outlined by the reading committee.

- Create a "reading atmosphere" in the school--by making it easier for students to take out library books, by encouraging them to read outside books both for course work and for personal enjoyment.

The Developmental Program

The high school developmental program, says Eileen E. Sargent, coordinator for Milwaukee's Nicolet Union School District, is pretty much a continuation of what youngsters learned in elementary school reading classes--but on a much more sophisticated level. While the emphasis in lower grades was on acquiring specific basic reading skills, the high school program is geared to showing students how they can use those skills more effectively--both in their studies and in day-to-day life.

To be sure, says John S. Simmons, a reading specialist at Florida State U., high school youngsters will still need to expand their vocabularies and learn to pronounce new technical terms. But the bulk of the high school developmental program is in improving skills in organizing material, abstracting ideas, analyzing passages, and learning to use the guideposts that writers and editors insert to help readers get through the material.

For example, notes U. of Minnesota reading specialist Guy L. Bond, the youngster should be taught to adjust his reading rate to fit the kind of ma-

terial he is trying to digest. It obviously takes a different kind of reading to get through a science or mathematics chapter, where every word counts, from what it takes to read a humorous story. High school students, says Bond, "need to be taught when to read slowly and carefully, when to reread, when to pause and reflect...and when to read rapidly."

Another important skill for high schoolers, says USOE's Arno Jewett, is how to use textbooks and reference books efficiently--how to read contents tables and indexes, how to locate information quickly, how to figure out how material is organized, how to use subheads and other editorial devices, and how to read tables, charts, cartoons, graphs, and photos.

Authorities say such skills must be taught just as word-recognition and pronunciation were in the lower grades. Hofstra U. clinic coordinator David L. Shepherd suggests that teachers make up exercises to show students step-by-step how to plan research projects, decide on sources, find materials--discussing such details as which books to check, what key words to look under, and so forth.

Similarly, Olive S. Niles, reading director of the Springfield, Mass., Public Schools, urges teachers to show students, through actual demonstrations, how to take notes, outline material, abstract ideas, underline important information, summarize, reread, and reorganize material.

In most U.S. high schools, the burden for such instruction--if there has been any at all--has fallen upon the English teachers, where at least part of it was included as part of a unit or two on "literary skills." Today, school systems such as the one in Centinela Valley, Calif., are giving new emphasis to developmental instruction by establishing special courses in language skills and making them required classes for all students.

More and more authorities are beginning to insist that reading instruction is the job of every teacher in the secondary school--not just those in the English department. In fact, say some, most high school-level reading skills--from technical vocabulary words to pacing and use of reference materials--are best taught in the content-area classes, right where they will be used. "How foolish," says Colorado's Mrs. Gibson, "to think that a reading or English teacher can teach a boy or girl how to use math reading skills or science reading skills in isolation and expect those skills to be transferred by some magic to the necessary class."

The content-area teacher, Mrs. Gibson says, "can teach the student reading skills necessary for his assignments. He can show his students how to use the table of contents, footnotes, glossary, author's organization, study questions, and index." Adds U. of Minnesota's Bond on the place to teach students to adjust their pace: "Such training must be given in content that demands such reading."

In addition, authorities say, paying attention to youngsters' reading problems can make any content-area teacher a much better instructor. "The day is gone, or should be," continues Mrs. Gibson, "when a teacher says 'Read pages 66 to 76 for tomorrow.' Any good teacher should know how to give a reading assignment in such a way that purpose is clear, that new concepts and

vocabulary are understood, and that the student is guided in how best to approach...the particular assignment involved."

So, USOE's Jewett suggests showing students how to use their textbooks in content-area classes on the very first day of school. "Interest is at an all-time high," he says. "Students know that their textbooks will give them a general idea of what the school year holds in store." Florida State's Simmons urges content-area teachers to start out the semester with a list of terms that will be used during lectures and discussions--"not just an opening unit, but a preparatory introduction to much of the year's work."

One teacher has prepared a special unit for his course--on "The Vocabulary of Literature." He suggests that the same thing can be done with math or science. Others drill their classes in analyzing tough passages or reorganizing material.

One of the most successful programs in which content-area teachers have become involved in teaching reading is at the U. of Chicago Laboratory School, which has been cited as a model by the International Reading Assn. There, with the help and suggestions of reading consultant Ellen L. Thomas, everyone from the French instructor to the football coach has taken on the job of improving youngsters' reading skills.

Here are some of the things the Lab School teachers have done:

- The home economics teacher, dismayed by complex instruction booklets, teaches students how to use sewing resource books, read sewing patterns and recipes, and follow package directions precisely.

- To prepare youngsters for unfamiliar translations, the French teacher conducts discussions of subjects related to story content, teaches his students to look for context clues in deciphering complex sentences.

- The typing teacher includes lessons on how to read for copying (type letter-by-letter without thinking about meaning) and on how to digest office instructions.

- The physical education instructor keeps a sports library in one corner of the locker room, constantly "sells" students on new books he thinks will stimulate their interest or improve their playing ability, frequently discusses the morning sports page.

- The social studies teacher uses copies of historic documents--such as orders of the day issued to a British soldier in the 1600's--to round out text material. Students analyze each passage.

- The art teacher has collected a classroom library covering everything from the history of painting to still photography. Students research art projects.

At the Lab School, the bulk of such projects are worked out cooperatively by the classroom teachers and the reading coordinator's staff members who are well grounded in language-skills techniques. But Milwaukee's Eileen E.

Sargent suggests that one of the best ways to get such a program started is to set up an "All-School Reading Committee" comprising content-area teachers as well as reading specialists and administrators. Under the plan outlined by Mrs. Sargent, representatives from each content-area department would meet with reading specialists and talk over problem areas. Together, they would work out ways in which subject-matter teachers in each department could help youngsters build language skills--consulting regularly with departmental colleagues. In summer sessions, the committee could draft curriculum suggestions and sample exercises for use the following term. In this way, Mrs. Sargent suggests, the reading specialists' suggestions can meet the technical requirements of the subject-matter teachers, and everyone will have had a hand in the new project.

The Remedial Program

Authorities say the mechanics of the high school remedial program are much the same as those for lower grades--intensified instruction administered to students on an individual basis, according to their needs. After comprehensive testing, the student is assigned to a scheduled time-slot where the reading specialist works with him on areas where he needs improvement--trying to make up missed basic skills.

One major difference, specialists say, is that the high school student is likely to prove unwilling to accept help with his reading problems, and perhaps even seem ashamed of having been assigned to a remedial class. Most teen-agers, points out Indiana U.'s Smith, feel they're "too old to be taking reading"--especially the kind of fundamentals or word-recognition and pronunciation that many poor readers need.

To ward off such feelings, many districts have found it valuable to schedule remedial students in with above-average youngsters during their time in the school-wide reading center so they can see that they're "not the only ones who are taking reading." While the brighter students are concentrating on speed-reading and analysis, the remedial youngsters--with extra attention from the specialist--can catch up on basic skills, each working at his own pace. Too often, where this is not done, says Betty Gibson, the remedial program is not very effective. "It becomes the 'dumping ground,'" she says, "for both the slow learner and students with all kinds of problems."

The Reading Center

As Smith describes it, the high school reading center is similar to the elementary school facilities outlined in previous chapters--a well lighted room, equipped with eye-training and pacing machines, a full range of audio-visual devices, and a variety of instructional materials. To give students added privacy, many schools have installed specially built study carrels--lined with acoustical tile--each with its own headset and a tachistoscope or controlled reader.

In a typical reading center, authorities say, students work individually, keeping their own records on daily progress. Aside from the initial orienta-

tion day, there is no group instruction. Each student uses a different "curriculum" and set of materials, designed to fit his specific needs.

The role of the specialist in the high school reading center is more as an adviser than as a traditional teacher. She helps first in diagnosing students' individual reading problems, then confers with them daily to suggest materials and to check on progress.

In many high schools the center is open throughout the day so students can practice skills during a free period or after the closing bell. In some districts, it is part of a "language laboratory" complex that includes several classrooms and small-group instruction areas.

In any case, authorities say, the center should be stocked with a wide variety of instructional materials, to help brighter students as well as slower ones--materials ranging from elementary-level skill building workbooks to sophisticated pacing devices that help youngsters learn to scan-read and build speed.

SUCCESSFUL INNOVATIONS

No matter what the new technique in reading instruction, chances are that some district has already tried it and is willing to pass on tips that could save both time and money. Here are some successful examples, cited by observers, which show how innovative school systems are moving to upgrade their local reading programs:

Bringing in the Community

Schoolmen in San Bernardino, Calif., came up with a novel idea to bring parents into the school to get them involved in the reading program. They invite the mothers and fathers for an evening "to hear your child's voice on tape" or "to come see the pictures we took on our field trip." Once the parents are there, the teachers work in a full explanation of the reading program and offer suggestions on how to help at home.

Many school districts have hired special staff assistants to "sell" the reading program to the community and to show parents how to help their youngsters. San Francisco, Calif., schools hired a "school-community teacher" to serve as liaison. In Riverton, Wyo., a part-time social worker serves this function.

In Flint, Mich., teachers developed a "Read-Aloud" kit to show the parents in poverty areas how to read to their youngsters so that the children could benefit educationally. Included in the packet was a series of instructions for parents (Sample: "Sit close to the child so that you can see what the child is doing. See that the child pronounces the word correctly....") and index cards showing steps the youngsters should take ("The child should look at the word...only one word at a time...think about its shape and how it begins and ends...say the word...say it softly...think about how it sounds...."). Families also were provided with children's dictionaries, along

with a file box for vocabulary flashcards. Textbooks no longer in use were cut up to make story booklets for home reading. Mothers were asked to help in stapling them together as a way to make them feel a part of the program.

Getting Outside Help

Schools in Indianapolis, Ind., are using a new technique called "programmed tutoring" to enable neighborhood housewives to function as teacher aides in helping first-grade pupils in the lower quarter of the class. Spending 15 minutes with each child in a conference room or classroom center, the aide follows a five-step procedure taking the child through his daily lesson, asking prewritten questions and directing him to work various exercises. If the child answers a question correctly, the aide moves on to a new unit. If the youngster makes a mistake, the tutor can follow one of several preprogrammed procedures--each designed to correspond to a particular deficiency symptom--which will drill the pupil in skills in which he is weak. The program, developed by D. G. Ellson at Indiana U., reportedly enables even the worst readers in any class to attain average achievement levels. But administrators warn that it works best with poor readers, and has little effect on above-average youngsters. Tutors in the Indianapolis program were recruited through notices in PTA bulletins and by word of mouth. They received 18 hours of group instruction along with on-the-job supervision, and also spent 12 hours on related home study.

Schools in San Bernardino, Calif., are using junior high students as tutors for elementary pupils who need help in reading, offering them academic credit for their work as though it were an elective course. After an intensive pretraining course, the older students spent 55-minute class periods working with individual children referred for help, drilling them with flashcards, audiovisual materials, and special instructional kits. The tutors have a special room for their work, complete with a wide range of materials, games, and a group of small tables. Student tutors also spend lunch periods and after-school time working with classroom teachers, later help train new tutors to take over the next year. Students selected as tutors must have good academic and citizenship records and regular attendance.

In the Garden Grove, Calif., junior high schools, teacher aides tape-record the lessons in social studies and science classes, then go over them later with remedial reading students to help them with vocabulary and comprehension problems. They also help make sure that youngsters understand their written assignments.

Schools in many major U.S. cities are taking advantage of the National School Volunteer Program to get teacher aides for reading classes. Women in the organization have agreed to work as tutors for at least three half-days a week during the regular semesters, giving children individual attention on school and home problems.

In the Two Bridges section of New York City, 21 mothers were hired as reading assistants for half-day sessions to help retarded readers. After one week of training and later inservice sessions conducted by classroom teachers, the aides were assigned to various classes. The project reportedly

worked well, demonstrating that undereducated parents can help tutor youngsters in reading. It also raised pupils' self-esteem by showing that area mothers could be part of the school staff--and gained 21 community ambassadors for the school in an impoverished area of the city.

Training Teachers

Prospective reading teachers in Dougherty County, Ga., are sent through a six-month course in reading instruction at the district's own clinic. For the first four to six weeks, clinic staffers and outside professors lecture on instructional theory and corrective techniques. Later, trainees split their days. In the mornings they work with problem youngsters at the clinic and in the afternoons, they go back to their own schools to teach remedial classes and to serve as resource specialists.

Kenmore, N.Y., schoolmen are offering teachers an extra incentive to learn more about reading instruction--a full university credit hour for attending nine evening inservice training sessions during the semester. During the sessions, teachers hear well known reading specialists lecture on instructional techniques, later take on projects designed to tackle reading problems in their own classrooms. The gist of their discussion sessions and lists of recommended materials are compiled into a mimeographed booklet distributed to all teachers who complete the course.

Many districts offer teachers a choice of schedules for inservice training sessions--or else supplement regular training with summer workshops. In Terre Haute, Ind., teachers may attend evening sessions or Saturday workshops. In Tuscaloosa, Ala., intensive weekly training sessions offered to teachers each spring are followed by a summer workshop on reading problems.

Reading Potpourri

Reading specialists at the U. of Chicago Laboratory School make sure that classroom teachers are aware of each child's reading level. They provide them with indexed file cards snowing each youngster's achievement test scores. The device enables teachers to tell at a glance whether a book is too difficult--or too easy--for a student, helps them know when to gear down classroom presentations for slower youngsters.

The school librarian has a card file, too, so she can check on reading level while a pupil is taking out a book. To make comparisons easier, the school has color-coded all books--texts and otherwise--to correspond with grade-level scores. So the faculty knows immediately whether the book and the youngster are matched.

The Tacoma, Wash., school system has set up its own research department to test out instructional techniques for reading and other subjects. Besides making formal studies, the division helps school faculties select and interpret standardized achievement tests, acts as consultant to classroom teachers who want to develop their own. Researchers check on which techniques work best, what is the ideal class size and grouping, and other factors.

St. Louis, Mo., schoolmen sparked reading interest in summer school pupils by offering books as "prizes" for completing outside reading projects. To win his first book, a youngster need only show that he has taken out a library card. After that, he can earn one gift book simply by reading two on his own outside of class. The program, which cost only $4,000 to start, was financed by federal grants. The district reported not only that the project motivated students but that many parents also have become avid readers.

Schoolmen in Flint, Mich., helped spark pupils' interest in reading by setting up a "Bookworm Club" for youngsters in grades 2-6. Pupils who read six books were given special lapel buttons, later earned a "diploma" when their totals reached 15 books. Youngsters also kept reading records on special tally sheets, showing the title, author, publisher, and summary of each book they read.

Materials and Equipment

Teachers in Central, N. Mex., helped make reading lessons "relevant" for Navajo pupils by preparing a series of preprimers and readers, incorporating stories and legends passed on by Indian parents. Cost, financed by the federal government, was between $10 and $15 a child. The same technique reportedly has worked well in urban ghetto areas.

Youngsters in Midwest City, Okla., play synonym bingo to help build their vocabularies. Instead of matching numbers as in the traditional game, the children match the "called" word with its synonym, printed on their score cards. The first player to get five words in a row wins the round.

Reading specialists at the Nicolet Union High School District in Milwaukee, Wis., regularly run readability tests on textbooks and other commercial materials to see whether they actually are geared to the grade levels they are advertised for. It's worth the trouble, says reading coordinator Eileen Sargent. The practice often has resulted in a change of textbooks or use of supplementary classroom materials where the reading level proved inappropriate. Recently, ninth-grade science teachers found that a book that had been touted by a textbook salesman as suitable for C students turned out to be readable only at the eleventh-grade level and above.

Teachers in Santa Barbara, Calif., have put together their own portable "listening center" by linking a phonograph, tape-recorder, and 12 headsets to work as a unit. Mounted on a cart, the complex can be wheeled from classroom to classroom whenever it is needed. Students use the facilities to record their own voices, listen to their mistakes in enunciation and phrasing, then compare them with tapes made earlier to check on their progress. Teachers also are able to tape lessons in advance for one group to follow while another group receives individual instruction.

The Palm Beach County, Fla., school system has equipped three 12 x 45-foot trailers as remedial clinics, and sends them to local schools for one semester at a time. A staff of one clinician, four remedial teachers, and a secretary-aide provides testing services and carries out the instructional program. Youngsters spend an hour a day in groups of two, three, or four.

Poor readers in Los Angeles, Calif., elementary schools are being given a chance to become above-average science students--through a specially prepared textbook developed by local teachers. Used in conjunction with locally prepared courses, the text discusses the same scientific concepts that brighter pupils are taught, but breaks them down into simpler language. The books contain the same experiments as more advanced texts, but directions are easier to follow and the material has more devices to motivate slower pupils. The district has given Harcourt, Brace and World, Inc., permission to print the booklets.

Organizing the Classroom

The Portsmouth, Va., school system used nongraded classes to help problem readers catch up, while still operating standard classes for those youngsters who are average readers or above. After a close initial scrutiny, youngsters are grouped in one of three programs--intermediate (for grades 4-6), primary (for grades 1-3), or prekindergarten--where they are given instruction according to their individual needs. Class size was cut in each of the nongraded rooms from the usual 30 pupils down to 25 simply by increasing the size of standard classes by one--a formula that works well in any given school system--and assigned only the best teachers to the program. Classes may contain children who are three years or more apart in age, and seven or more stages apart in reading achievement. Administrators report dramatic results: Problem youngsters now are spotted earlier; those with disabilities receive more intensive help. In the initial program, some 80% of the remedial pupils were able to move back into regular classes. The nongraded approach also has helped to motivate pupils and has sharpened teachers' skills in diagnosing individual problems. The success of the program in lower grades has made it possible to decrease the number of nongraded classes in junior high schools in Portsmouth.

Portsmouth educators have used the textbook supply system in that school district to ensure that teachers will give pupils attention on reading problems. Every teacher is given a dozen of each of three different basic texts --enough for only one-half to two-thirds of the class. The variety of textbooks virtually forces teachers to use small-group instruction instead of the traditional approach--or to switch to nongraded classes. It also allows them to assign each youngster a book that fits his reading level.

Educators in Troy, N.Y., have replaced traditional English and reading courses at Charles Henderson High School with a nongraded "communicative arts" program designed to meet individual needs. On the basis of standardized achievement tests, pupils are assigned to one of five "phases" in the multilevel program, ranging from remedial training to college credit courses. Youngsters who demonstrate proficiency in one phase can move on to the next highest level after each six-week interval.

In Flint, Mich., specially trained reading teachers go from classroom to classroom on a regular schedule to handle youngsters who have special problems. The specialist first works with a half-dozen or so pupils who are experiencing difficulty, then helps the classroom teacher set up corrective activities that can be used later on. The Flint school system is set up on

a nongraded basis, but administrators say the plan can work with conventional grading as well.

Youngstown, Ohio, teachers have divided their classrooms into five different instructional areas to permit small-group or individual attention to reading problems. Each section is built around a different piece of equipment--a listening console with headphones, a set of overhead and filmstrip projectors, a table for typewriters, or a corner where pupils can use games and puzzles. Another innovation is a 12x12-foot glass-enclosed area where teachers can handle small groups or conduct individual conferences.

The Hartford, Conn., school system has helped below-average readers in the third through sixth grades to improve their reading ability significantly by using teams of remedial teachers to provide intensive instruction for problem youngsters. Teams comprised of specialists in basal reading, phonics, and individualized reading meet with classes of 15 pupils for an hour each morning for 6 to 12 weeks. Each class moves from teacher to teacher at the end of each hour's session, until all three areas have been covered. An independent study describes the technique as measurably successful, with pupils continuing to improve months after they leave the program.

Special Programs

Teachers in Niskayuna, N.Y., have begun a program to improve primary-grade youngsters' perception and motor coordination by reshaping school physical education exercises to emphasize those skills. A team comprised of the physical education instructor, the school psychologist, and various classroom teachers devised games and exercises designed to build hand-eye coordination, left-right awareness, tactile sense, and other skills, then instituted the changes throughout the kindergarten and first grades. Teachers report that the youngsters seem to have just as much fun as under the previous system and are unaware that they are "practicing" any specific skills. Even the physical education instructor was impressed: "Before," he said, "we had little thought process. We were used to telling the children what to do without thinking about why. Now we are giving them problem-solving games that have some content."

Reading is taught in kindergarten in Denver and Greeley, Colo., public schools. The move stemmed from a five-year study in the Denver school system which showed that early instruction in reading could provide benefits which carried over into elementary grades.

The East Palo Alto, Calif., school district is using a new program called "computer-assisted instruction" to teach reading in primary grades. Youngsters at Brentwood Elementary School spend 30-minute sessions each day at the central computer complex, moving at their own pace through a programmed sequence of lessons. The computer-based center includes individual stations equipped with earphones, microphone, typewriter keyboard, cathode-ray screens, and a pencil-light.

Another programmed technique is IPI--Individually Prescribed Instruction. Carefully structured lesson materials are geared to specific objectives, de-

signed to allow each pupil to learn with a minimum of work by the teacher. The system provides for diagnosis of pupils' skills, with written "prescriptions" prepared to meet individual needs. The teacher's role is more that of a monitor and tutor for youngsters who need help.

Poor readers in San Diego, Calif., primary grades are taken out of their regular classes for a 40-minute-a-day, 10-week remedial program designed to "reteach" reading skills to youngsters. Classes of 8 to 10 pupils are given intensive phonics-based instruction, using high-interest materials and specialized equipment. Children are returned to their regular classrooms after teachers judge them ready to handle standard material.

The Los Angeles, Calif., schools are planning to introduce a systems analysis approach to regulate the pace of individualized reading instruction to each child's needs. Under this system pupils will be given specific skill sequences designed to correspond to their individual needs. At the end of each unit, the youngsters will be tested to see whether they have learned the material well enough to meet preset performance requirements. Those who have will be permitted to go on to the next sequence. Others will repeat the previous cycle. The Los Angeles system will be one of the first in the nation to adopt this approach.

To help motivate disadvantaged youngsters, teachers in San Francisco, Calif., have combined remedial reading programs with compensatory education classes. A special teacher handles five groups a day for hour-long classes, concentrating on particular subjects to whet pupils' appetites, working in reading instruction throughout the course. In a botany class, for example, the teacher encourages youngsters to grow plants in tin cans, build a greenhouse, and test soil. As they are talking about a subject, the youngsters go over vocabulary words they need in order to discuss it ("moisture," "mineral," "dissolve," "ingredient"), and tape-record and act out experiences. Resource teachers visit classes regularly to help with specific problems.

Clinicians at the Southwestern Cooperative Educational Laboratory in Albuquerque, N. Mex., have developed a program designed to provide disadvantaged children--primarily Negroes, Indians, and Mexican-Americans--with the same kind of language foundation with which youngsters from middle-class backgrounds begin their reading instruction. Before entering school, the pupils are given exercises in sight and sound discrimination, motor coordination, and prekindergarten vocabulary. Lesson materials are tailored to cultural factors and emphasize language development and overall communication.

A remedial reading program set up in six ghetto-area elementary schools in the Pomona, Calif., school district resulted in gains of up to one grade level in pupils' reading ability over the first six-month period. Four remedial teachers, assisted by 36 neighborhood aides, conducted special classes for first, second, and third graders while a coordinator worked with classroom teachers to reinforce the special training. The district also hired a psychologist and counselors to perform diagnosis and work in the community. Inservice training was set up in cooperation with the U. of Southern California. A random sample showed pupils in the initial program gained anywhere from 7 to 12 months--considered exceptional progress for disadvantaged youngsters. Cost: about $570 a pupil for the first year.

Detroit, Mich., schools set up a systemwide network of six communication skills centers and a reading development center to serve 2,845 disadvantaged youngsters from grades two through twelve. After initial diagnosis by a staff of psychologists and specialists, the children were assigned to small-group instructional units (6-10 students in a class) for individualized remedial training--or to a central clinic if the case warranted it. Elementary school classes met for one-hour sessions twice a week; high schoolers received four sessions a week lasting 45 minutes each. Administrators reported substantial gains in pupil achievement for younger children. The program, covering 60 public schools and 26 nonpublic schools, cost an estimated $264 a pupil.

Milwaukee, Wis., educators set up reading centers in 15 elementary schools to offer remedial instruction to disadvantaged youngsters in grades 4-8. Using classes of six to eight pupils each, teachers spent about 30 minutes a day with each group in a program that lasted a full semester. Pupils who improved to grade level were returned to their regular classes. Besides providing instruction, the project staff--a director, a supervising teacher, and several reading teachers--also helped prepare materials, plan classroom reading activities, develop new techniques, and collect research data. Gains averaged about six months during the first semester of instruction. Cost was about $130,000, including overhead and evaluation costs, of which approximately $2,500 was for materials and equipment.

Disadvantaged youngsters made average gains of nine months in reading-grade level over a six-month period in a remedial program established in Pomona, Calif. Small-group instruction was given to youngsters in grades 1-3, with one remedial teacher assigned to every two schools. At the same time, the district instituted a cultural enrichment program that reading teachers used to get children talking about their experiences. An inservice training program was set up to show classroom teachers how to reinforce the remedial instruction. Staff included four remedial teachers, one coordinator, three counselors, two psychologists, 36 part-time teacher aides and clerks, bus drivers, and staff personnel.

Slow readers in New York City junior high schools averaged gains of a third of a year over a five-week instructional period in that city's summer institute program. Students from 11 poverty-area schools spent 90 minutes a day in small, nongraded classes. Least proficient youngsters concentrated on phonics-based instruction, while more fluent students were given intensive drill in comprehension and structural analysis, partially using programmed materials. The reading program was combined with a similar course for youngsters who had difficulty in mathematics. Authorities estimated that the four weeks of intensive instruction equaled about eight weeks' worth of course work during the regular school year.

In Los Angeles, Calif., a special project team has set up a core program designed to get math, history, and other subjects across to junior high school students who are problem readers. Youngsters two or more years below grade level in reading ability are taught subject-matter courses by teachers who have been given special training in reading instruction. Classes are kept small, and teachers use games and audiovisual devices to capture pupils' attention. Materials were scarce, so teachers developed their own.

WHAT RESEARCHERS HAVE FOUND

Perhaps the one conclusion that would draw the widest agreement among educational researchers today is that they have only begun to learn what can be done to improve reading instruction. Of the spate of research projects conducted over the past half century, too many have been inconclusive, produced conflicting results, or offered theoretical proofs that are of little value to the classroom teacher.

With the growing national awareness of the importance of reading instruction, however--and the new private and federal programs to finance research efforts--reading specialists are beginning to make some significant steps toward finding out what makes pupils learn to read. More and more researchers are beginning to tackle the practical problems which classroom teachers face.

Two of the most widely quoted reading studies in recent years--considered important breakthroughs by many authorities--are the multidistrict primary-grade survey conducted by the U. of Minnesota Reading Center, and the comprehensive review of existing research compiled by Jeanne Chall, Harvard U. education professor.

While the two studies differ in some respects, together they seem to point to these conclusions:

- There is no one "best" way to teach reading. Rather, the most successful programs seem to be those in which teachers use a variety of techniques--designed to fit the class and the situation.

- A more important factor than which single method is used is how competent the teacher is. Studies show that the better the teacher, the more quickly pupils learn to read--no matter which techniques are employed.

- In the first stages of reading instruction, many pupils seem to make more progress under phonics-type programs--those in which they are taught to recognize letters and sounds before considering what they mean.

- But while phonics-related approaches are often effective in the beginning grades, they don't necessarily guarantee that the pupil will become a good reader. Some instruction in comprehension is needed later on.

- No youngster can learn to read well without first mastering the alphabet and acquiring the ability to distinguish word sounds--skills which he should have down pat before any reading instruction is begun.

- Today's youngsters are better prepared than those of previous years, so teachers probably can expect them to achieve much more than they are being asked to in most schools--especially in word recognition.

The 'Best' Teaching Method

For years, U.S. educators have been trying to "prove" which of the recognized instructional techniques is most effective for teaching youngsters to

read--the controlled-vocabulary approach, programmed instruction, multisensory methods, individualized techniques, the initial teaching alphabet, or others.

But perhaps the most definitive study, authorities say, is one which seems to dismiss the entire question once and for all--a 1967 USOE-sponsored survey of 20,000 first- and second-grade reading pupils, compiled by U. of Minnesota research specialists Guy L. Bond and Robert Dykstra (Final Report of the Continuation of the Coordinating Center for First-Grade Reading Instruction Programs. USOE Project 6-1651. Minneapolis: U. of Minnesota, 1967).

Coordinating 27 separate research projects so the results would be compatible, the Bond-Dykstra team compared the achievement of youngsters taught under each of the recognized methods with that of pupils in the same schools who used only a standard basal reader.

While the results indicated that phonics-related approaches generally were more effective at the beginning in building basic skills, the study still concluded that "no one method is so distinctly better" than the rest "that it should be considered the best...and the one to be used exclusively."

Checking over their data, Bond and Dykstra noted that youngsters of the same sex and similar intelligence levels, proficiency in distinguishing sounds, and other skills which generally influence reading capability seemed to achieve proportionally the same under all of the recognized techniques.

Rather, they concluded, "combinations of programs, such as a basal program with supplementary phonics materials, often are superior to single approaches." And the addition of language-experience activities to any teaching approach, they said, "would be a contribution" to improved instruction.

"Perhaps," concluded the report, "an instructional program which incorporated the most important elements of all the approaches used in the study would be a more effective method of teaching than any currently in use."

Rather than technique, Bond and Dykstra found that the single most important factor in the success of a reading program--"over and above the methods employed"--is the ability of the teacher. A comparison of the top five classes in the projects with those at the bottom showed that in groups with the greatest pupil achievement the "overall competence of the teachers... (was) significantly higher."

The study seemed to show, the research team indicated, that perhaps the "best" techniques were those which worked most effectively for individual teachers: "A teacher who is successful with a given instructional program will probably be successful with that approach for pupils of varying degrees of readiness and capability."

Phonics Versus Look-Say

For a good portion of the past 50 years, one of the most controversial questions in American education has been which kinds of approaches are best to use in teaching children to read:

- The phonics, or "code-emphasis" family approach--such as the i.t.a. technique. Youngsters first learn to spell and sound out words before learning what they mean, repeatedly linking letters with specific sounds as though the alphabet were a kind of code.

- Meaning-emphasis, or "look-say" techniques--such as the language-experience approach or the Dick-and-Jane basal series--under which pupils learn to recognize entire words at once and to determine their meaning at the same time, taking their cues for both from the content of the material and from accompanying illustrations.

Until the 1960's, most U.S. elementary schools had been using the meaning-emphasis approach almost exclusively, contending that old-style phonics-type techniques only get in the way of full reading development. But critics such as Mortimer Smith of the Council for Basic Education have branded the look-say approach as "essentially a method of guessing," and have asserted that phonics-related methods offer the only logical, and the least frustrating, way of teaching youngsters to read.

Now, two widely acclaimed research reports have given a definite edge to the various phonics-related teaching methods--at least for the beginning stages of reading instruction. The Bond and Dykstra study and a research survey by Harvard U.'s Jeanne Chall (Learning To Read. New York: McGraw-Hill Book Co., 1967) have found that primary-grade pupils taught under a phonics-family approach usually wind up better grounded in critical basic reading skills--a factor which may help them later on in acquiring comprehension.

Comparing results from projects involving both code-emphasis and look-say techniques, the Bond-Dykstra team found that early emphasis on phonics "appears to be highly related to word-recognition achievement" and "results in superior silent-reading vocabulary, oral-reading vocabulary, and spelling ability." The Chall report, surveying five decades' worth of reading research, agreed, adding that phonics-related instruction "also makes it easier for the child eventually to read with understanding."

In detailing its findings, the Bond-Dykstra team cited the strict control of vocabulary used in most phonics techniques as a factor that "appears to facilitate acquisition of skill in unlocking words and in spelling." Also, they said, the fact that phonics pupils are taught to write symbols at the same time that they are learning to read them "may have been influential... in producing pupils with superior word recognition and spelling skills."

Even so, Jeanne Chall warned that the phonics-related techniques were useful only as a beginning method, and that trying to continue code-emphasis approaches after a pupil has acquired the basic skills probably is a waste of time. And the Bond-Dykstra report cautioned teachers that the advantage which pupils build up under the phonics approach "does not transfer automatically" into ability to understand sentences and paragraphs: "Direct instruction in comprehension is apparently essential."

The contention of both reports that phonics-related approaches are more effective techniques for teaching primary-grade pupils was disputed in a 1968 study by Edward B. Fry, director of the reading center at Rutgers U. After

a study of 21 New Jersey classes, Fry concluded that it didn't matter whether a school used phonics or look-say approaches--the really crucial factor was the ability of the teacher.

Many educators feel that both the Bond-Dykstra team and Jeanne Chall would give at least some credence to Fry's conclusion. Bond and Dykstra both stressed the importance of the teacher's "overall competence" in raising the achievement level of any class. And Jeanne Chall cautioned against changing techniques just for the sake of change: "Some teachers may already be doing better than any published or 'scientifically' developed program can help them to do. To make such teachers change would be self-defeating."

Outside Factors

In almost every major recent study, researchers have found that it isn't just the method or teacher that accounts for how quickly a child will learn to read. A good deal depends upon the abilities the youngster brings with him to the classroom--how well he is able to see and hear, his general intelligence, and how much exposure he has had to books and to other language materials.

Two of the most important factors, according to Bond and Dykstra, are whether the youngster has learned the alphabet--and learned to distinguish among word sounds--before entering first grade. "Knowledge of letter names gained prior to initial instruction" alone, they estimated, "would account for approximately 25 to 36% of the variation in reading ability found at the end of the year"--no matter which techniques were used.

The success of the phonics-family programs, the researchers said, indicated that alphabet recognition should be given "primary attention before formal reading instruction begins, or in the initial stages." That factor alone was so important to later success, they continued, that a single subtest that measured only letter-recognition skills would be almost as valuable a predictor of how well a child will learn to read as "an entire reading readiness battery" might be.

Perhaps because so many youngsters now are receiving that kind of instruction at home or in prekindergarten programs, Bond and Dykstra found that first graders today "are undoubtedly better equipped" for reading instruction than those of years ago--and that teachers probably ought to expect more from their pupils than they seem to.

Pupils today usually can learn to recognize far more words than they are asked to learn under most standard reading programs, the researchers concluded, and "expectations of pupil accomplishment in initial reading instruction probably can be raised." But, they warn, the study showed that girls tend to be better readers than boys no matter what the techniques or methods of instruction--so teachers should "make differential expectations concerning mean achievement" for each.

The Council for Basic Education's Smith agrees that pupils probably can learn more words than they are given, but blames look-say-type basal readers

in part for the difference. "Beginning in the 1920's, reading experts started to issue standardized word lists, supposedly based on the words most frequently used by children and young people," he writes. "Although it has been estimated that average 6-year-olds have a recognition vocabulary of about 15,000 words, the total number of words in the readers has to be meager because the reading method calls for learning them one by one.... In 1965, Arthur S. Trace Jr. pointed out that in three of the most widely used series of readers the total number of words used in the first-grade reader was 326 (lower for each series). He also pointed out that 'the vocabulary in the typical Dick-and-Jane type sixth-grade readers is less than half the recognition vocabulary of a typical first grader.'"

Individual Techniques

In the Minneapolis survey, Bond and Dykstra compared the reading achievement of first- and second-grade pupils learning under one of the techniques described in Chapter II to those in the same schools whose classes used conventional Dick-and-Jane-style basal readers.

While the individual techniques never were compared with one another directly, they were evaluated against the basal reader approach, a "look-say" program which emphasized meaning, postponed the introduction of phonics, and selected vocabulary words on the basis of most frequent use. Here are the results:

- Pupils using the controlled-vocabulary approach scored "somewhat better" at word-recognition and spelling than youngsters using basal readers, but showed "no differences" in reading rate, accuracy, or comprehension.

- Those learning under the multisensory or "language experience" approach showed "strikingly similar achievement" and "no significant differences" when compared to basal-reader pupils in areas of spelling, comprehension, vocabulary, rate, accuracy, or oral reading. The range between the highest and lowest achievers under this approach, however, was greater than that for the basal-reader classes, with the more mature pupils making greater strides by using the multisensory approach and the less mature youngsters learning more by using the basal texts.

- Youngsters using a second basal-reader approach, one which stressed phonics-type techniques, tested "significantly better" than those using the conventional basal in spelling and in vocabulary and comprehension in silent reading. At the end of the first grade, the phonics-basal pupils were ahead of those using the conventional reader in rate, accuracy, and word pronunciation. By the end of the second grade, they were "superior in every phase of achievement."

- Pupils using the initial teaching alphabet--i.t.a.--generally were "significantly superior" to those using the conventional basal reader on spelling and word-recognition tests, but "did not differ significantly" in reading comprehension. Bond and Dykstra concluded that i.t.a. was "a significant positive influence" in developing a youngster's ability to decode printed words and to encode spoken language.

In another study--this one an independent survey completed in 1969 for the British government's Schools Council (i.t.a.--An Independent Evaluation, by F. W. Warburton and Vera Southgate. Initial Teaching Alphabet Publications, 6 E. 43d Street, NYC 10017; 1969, 321 pp.)--researchers found that pupils taught under the i.t.a. system learned to read "earlier, more easily, and at a faster rate" than those using the traditional English alphabet, no matter what their intelligence level.

Because the i.t.a. system uses a separate letter-symbol for each sound, researchers found, youngsters are able to write almost any word as soon as they can pronounce it. As a result, the study showed, i.t.a. pupils began writing compositions and stories earlier than other children--and reading a wider variety of books.

The i.t.a. youngsters' advantage disappeared, however, after the class made its transition to the tranditional English alphabet--a changeover that usually takes place in the middle of the second grade. Ironically, the research teams found that making the transition then was not difficult for the youngsters, but it did place some strain on teachers, who said they had to work harder during the changeover.

Researchers did report some disadvantages to i.t.a.: It may confuse some youngsters to go from a classroom where the 44-character alphabet is used to their homes and community, where everything is written in traditional symbols. And pupils who changed schools in midyear--before making the transition to regular letters--often experienced temporary setbacks.

Also, because pupils who have learned the i.t.a. alphabet can read anything that is written in it--no matter how long the word--there is always the danger that youngsters may go on reading more difficult materials without fully comprehending them. But, the researchers added, an alert teacher almost always can spot this.

Finally, the survey noted that there seems to be a dearth of books and materials designed to be used in i.t.a. instruction--whether for text or pleasure-reading. Most i.t.a. materials are somewhat expensive, they found, and simply transliterating a regular reader into i.t.a. symbols does "not adequately cater" to students' needs, the report says. What is needed is more material specially written for use with i.t.a. classes.

The survey declined to suggest that the i.t.a. system is any sort of final answer to the reading problem, but it did conclude that even with its disadvantages, the British-bred system still is worth using. Even if youngsters eventually lose the advantage they gained under i.t.a., the report concluded, still fewer children will have experienced frustration in the initial stages of learning to read, and many will have "known the enjoyment and value of reading a year or so earlier than they would have done."

READING RESOURCES

The following list of reading resources, considered by USOE officials to be the most complete up-to-date list of materials available in the field of reading, is reproduced in its entirety from Reading Resources for the 70's, a brochure compiled by the ERIC Clearinghouse on Information:

The "knowledge explosion" is one of the realities of modern life. Knowledge is being created almost at a rate faster than it can be digested or disseminated. To aid educators both in locating and using knowledge, the U.S. Office of Education created ERIC—the Educational Resources Information Center. ERIC is an information system designed specifically for American education. ERIC's aim is to speed the flow of educational research and information to the people who need it: teachers, administrators, researchers, educational policy-makers, and interested members of the general public.

The ERIC Clearinghouse on Reading is one center in the nationwide ERIC network of information centers. Its task is to organize, analyze, and make available documents and products which will serve as basic information resources for people in the field of reading. The information analysis activities of the Clearinghouse on Reading have produced a wide variety of resources:

Guides to Information Sources in Reading
State-of-the-art Monographs
Interpretive Monographs Directed to Special Audiences
Special Bibliographies and Reviews
Broad Subject Bibliographies
Basic References on Reading
Bibliographies Related to Special ERIC Collections

Any or all of these items can be acquired. ERIC documents are announced in *Research in Education*,[1] a monthly abstract journal of the ERIC system, and are normally made available through the ERIC Document Reproduction System which is indicated in citations as EDRS. Documents are generally available in two forms: microfiche and/or hard copy. Microfiche is quite economical—a single fiche costs twenty-five cents and contains 60-70 pages of a document on a 4" x 6" sheet of microfilm. Hard copy is a slightly reduced reproduction of an original document and can be read without machine aid. It sells for five cents per page.

Some ERIC/CRIER information analysis products are available through the International Reading Association, the professional organization which with Indiana University sponsors the Clearinghouse on Reading. Documents available from IRA are also available from EDRS in microfiche, *but not in hard copy*.

Guides to Information Sources in Reading

The Clearinghouse on Reading is preparing a series of guides to acquaint people with the wealth of materials available for teaching, testing, researching, and generally surveying the field of reading.

[1]Subscriptions are available from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, for $21.00 a year, domestic mailing and $26.75, foreign mailing.

Guide to Materials for Reading Instruction
(ED 019 528, microfiche $1.25, hard copy $13.95 from EDRS).

Materials currently available from 78 publishers for use in the teaching of reading are classified and described according to title, type, reading difficulty, interest level, and skill development. Cited materials include basal reading materials, specific reading skill materials, and remedial and developmental materials such as workbooks and programmed texts. Entries are organized alphabetically according to publisher and are divided into basal and nonbasal categories. Basal programs are arranged sequentially from readiness materials through the various reading levels. Nonbasal materials are arranged according to type. The names and addresses of participating publishers are included.

Guide to Materials for Reading Instruction, Supplement 1
(ED 032 452, microfiche $0.75, hard copy $9.10 from EDRS).

Supplement 1 updates the first edition of the *Guide* by announcing new materials of contributing publishers, adding the products of 22 new participating publishers, and correcting some entries in the first edition of the *Guide*. Additional material is included in the introduction to explain the classification plan fully.

Guide to Tests and Measuring Instruments for Reading
(ED 022 973, microfiche $0.50, hard copy $4.95 from EDRS).

This two-part guide was designed to serve as a comprehensive source of information on 170 published reading tests. Part I provides descriptive information about each test: (1) the name as listed on the front cover of the test booklet, (2) the publisher's suggested grade or age level for test use, (3) the type of test: individual or group, (4) norming data: population, descriptive information, and extensiveness, (5) subtest names as indicated in the test booklet, (6) the number of available forms, (7) the original publication date, (8) the revision date, (9) the authors, (10) the publisher, and (11) the time needed for giving directions and administering the tests. Part II provides an index to research articles which have reported use of the tests described in Part I. These research references are taken from reading research reported in ERIC/CRIER basic references and are indicated by ERIC/CRIER document numbers. The names and addresses of the 45 participating publishers are included.

20 Year Annotated Index to *The Reading Teacher*
(ED 031 608, microfiche $0.75 from EDRS).

The *Index* contains annotations of 816 articles which have appeared in the 20 volumes of *The Reading Teacher*. Each article is organized according to its major focus in one of eighteen categories and cross-referenced to other related categories. The hard bound volume of this publication is available from the International Reading Association for $3.00 to members of the Association and $3.50 to non-members.

State-of-the-art Monographs

The Clearinghouse views its state-of-the-art monographs as an important activity in information and research analysis. Monographs are authored by persons with a critical knowledge of a particular area. The author deals with the area in terms of the current state of knowledge, its practical implications, research gaps and needs, theoretical controversies, and implications for future research and classroom practice.

ERIC/CRIER state-of-the-art monographs are published by the International Reading Association and are available to members of the Association for $3.00 and to non-members for $3.50. The monographs are available in microfiche only from the ERIC Document Reproduction Service.

A. Sterl Artley, *Trends and Practices in Secondary School Reading*, International Reading Associaton, Newark, Delaware, 1968, pp. 131
(ED 024 560, microfiche $0.75 from EDRS).

The monograph reviews more than 180 research studies reported during the last decade on (1) secondary school reading achievement, (2) status factors related to growth in reading, (3) progress of reading instruction, (4) instructional procedures, (5) student reading interests, and (6) secondary reading personnel preparation. The author points out that the decline in reading growth which occurs at the junior high school level results from the lack of systematic reading instruction beyond grade six. The author indicates that a student's emotional, physical, and intellectual competencies, as well as his reading purposes and communication abilities, are directly related to reading growth. General program improvement suggestions include close integration of reading and content-area material, sequential development that provides for individual needs in all areas of reading growth, and complete staff involvement. The use of a variety of reading materials and methods, both mechanical and textual, is recommended for reading instruction.

Ruth Strang, *Reading Diagnosis and Remediation*, International Reading Association, Newark, Delaware, 1968, pp. 175
(ED 025 402, microfiche $1.00 from EDRS).

This monograph reviews the literature on diagnosis and remediation in reading and is organized around the following points: (1) the nature and levels of diagnosis, (2) the characteristics and conditions related to reading achievement and disability, (3) severe reading disabilities, (4) diagnostic techniques, (5) diagnosing special groups, (6) remediation, and (7) trends, needs, and future directions in diagnosis and remediation. The author notes a growing emphasis on early diagnosis, differential diagnosis, behavioral approach, perception, and learning modalities. She stresses that teachers and clinicians must be helped to improve their competence in using diagnostic instruments and results, in observing student behavior, and in selecting the most appropriate teaching and guidance procedures.

Interpretive Monographs Directed to Special Audiences

This series was designed specifically to present research results in an easily readable style for special audiences in or concerned with our schools. The aim of the series is to shorten the time lag between the demonstration of successful research and practice and its implementation. The papers are published by the International Reading Association and are available to members of the Association for $1.50 and to non-members for $2.00. They are available from the ERIC Document Reproduction Service in microfiche only at prices cited with each paper.

Reading Problems and the Environment—The Principal's Role
(ED 024 847, microfiche $0.50 from EDRS).

Establishing Central Reading Clinics—The Administrator's Role
(ED 024 849, microfiche $0.50 from EDRS).

Treating Reading Disabilities—The Specialist's Role
(ED 024 850, microfiche $0.50 from EDRS).

Correcting Reading Problems in the Classroom
(ED 024 848, microfiche $0.50 from EDRS).

The four books of this Target Series present a broad picture of what schools can do to overcome reading difficulty. Each book is directed to a specific person on a school staff and focuses on a different aspect of treating reading difficulties and the effective roles of the staff in this job. Each book contains interpretation of research as related to a set of causes, model programs aimed at overcoming them, steps for setting up a program, and recommendations and guidelines for those programs.

Special Bibliographies and Reviews

These publications survey special areas, levels, and problems in the field of reading.

Recent Reviews and Bibliographic Resources for Reading Research
(ED 013 344, microfiche $0.50, hard copy $4.50 from EDRS).
Presents descriptive abstracts of 259 useful documents related to reading research, published between 1957 and 1966. Articles which reviewed research, analyzed topics in reading, or provided fairly extensive lists of references are included.

An Annotated Bibliography of Selected Research Related to Teaching Reading in the Secondary School, 1900-1960
(ED 010 757, microfiche $0.75, hard copy $9.60 from EDRS).
Presents a preliminary draft of an annotated bibliography of selected research from 1900 to 1960 related to teaching reading in the secondary school. Over 1,000 studies are reported.

An Annotated Bibliography of Selected Research Related to Teaching Reading in the Secondary School, Supplement 1961-1963
(ED 010 758, microfiche $0.25, hard copy $1.70 from EDRS).
A supplement to the preceding biliography. The research included was published in *The Reading Teacher* research issues from 1962, 1963, and 1964.

Reading Programs in Secondary Schools
(ED 012 691, microfiche $0.25, hard copy $1.35 from EDRS).

Reviews a sampling of secondary school reading programs (senior and junior high schools) described in the professional literature. A 114-item bibliography is included.

Materials for Adult Basic Education—An Annotated Bibliography
(ED 011 489, microfiche $0.25, hard copy $1.35 from EDRS).
Presents 101 references particularly useful to teachers and administrators interested in developing special programs for Adult Basic Education and Literacy situations. For each item a series of descriptive terms pinpoints the content covered and the major areas of use for primary, intermediate, and beginning high school levels.

Vision and Reading Ability
(ED 015 863, microfiche $0.25, hard copy $1.80 from EDRS).
Surveys significant research on the physiological and functional aspects of vision and reading disability. A bibliography of 70 references and a glossary of terms are appended.

A Citation Bibliography of Selected Sources on Dyslexia and Learning Disabilities
(ED 020 865, microfiche $0.50 hard copy $4.00 from EDRS).
Approximately 1,400 citations, ranging in date from 1868 to 1967, relating to dyslexia and learning disabilities are included in this bibliography which is a compilation of lists submitted to ERIC/CRIER by investigators interested in the topics.

Broad Subject Bibliographies

The Clearinghouse cannot conduct a special search of its holdings and provide a custom bibliography for individual requests. The Clearinghouse does, however, meet the larger portion of user needs by making indepth searches of its basic reference collection and preparing abstract bibliographies on areas in reading which are most frequently requested and most critical. Such broad subject and content area bibliographies are always under way at ERIC/CRIER.

Research on Reading in the Content Fields: Mathematics, Science, and Social Studies
(ED 024 538, microfiche $0.75, hard copy $6.50 from EDRS).

Research on Reading in the Content Fields: Language Arts and Literature
(ED 024 539, microfiche $1.00, hard copy $11.45 from EDRS).

Research on Reading in the Content Fields: General and Other Subjects
(ED 024 537, microfiche $0.50, hard copy $6.05 from EDRS).

Research on Elementary Reading: Reading Readiness
(ED 029 163, microfiche $0.50, hard copy $6.30 from EDRS).

Research on Elementary Reading: Word Recognition
(ED 028 310, microfiche $0.50, hard copy $6.05 from EDRS).

Research on Elementary Reading: Critical and Interpretive Reading
(ED 030 779, microfiche $0.50, hard copy $3.10 from EDRS).

Research on Reading: Word Lists
(ED 030 778, microfiche $0.25, hard copy $2.90 from EDRS).
These bibliographies are based on a computer search of the ERIC/CRIER basic references. A critical review of the computer search is made, and documents are selected in the particular content areas or on the broad subjects indicated in the bibliography titles. Documents published since 1950 are cited and abstracted in the first section of each bibliography. Documents written prior to 1950 are cited and annotated in the second section. The bibliography on Critical and Interpretive Reading includes an added feature: documents in the first section (written after 1950) are classified in three sections: highly relevant to the subject, relevant, and related.

Basic References

The basic document collection of the Clearinghouse consists of more than 7,000 citations covering research and research-related reports on reading which have appeared since 1900.

Published Research Literature in Reading, 1900-1949
(ED 013 970, microfiche $2.00, hard copy $24.90 from EDRS).

Published Research Literature in Reading, 1950-1963
(ED 012 834, microfiche $1.50, hard copy $19.90 from EDRS).

Published Research Literature in Reading, 1964-1966
(ED 013 969, microfiche $0.75, hard copy $9.10 from EDRS).
These references present 5,545 citations and annotations (1900-1949: 2,883 citations; 1950-1963: 1,913 citations; 1964-1966: 849 citations) on published research literature taken from the annual Summary of Investigations Related to Reading. Complete bibliographic data are given for each entry. Entries are arranged alphabetically by author in yearly segments. The bibliographies cover the complete reading spectrum from preschool to college and adult years and present research on all aspects of reading.

International Reading Association Conference Proceedings Reports on Elementary Reading
(ED 013 197, microfiche $4.25, hard copy $56.85 from EDRS).
Lists and annotates the important papers on elementary reading published in the yearly conference proceedings of the IRA from 1960 to 1966. The complete text of the 345 papers is provided.

International Reading Association Conference Proceedings Reports on Secondary Reading
(ED 013 185, microfiche $2.25, hard copy $30.70 from EDRS).
Lists and annotates the important papers on junior and senior high school reading published in the yearly conference proceedings of the Association from 1960 to 1966. The complete text of each of the 180 papers is provided.

Recent Doctoral Dissertation Research in Reading
(ED 012 693, microfiche $1.00, hard copy $11.05 from EDRS).
Lists and abstracts 379 dissertations completed in colleges and universities from 1960 to 1965 in the areas of preschool, elementary, secondary, college, and adult reading.

Recent Doctoral Dissertation Research in Reading, Supplement 1
(ED 028 055, microfiche $0.75, hard copy $9.00 from EDRS).

A supplement to the bibliography listed above. Supplement 1 cites and abstracts dissertations in reading completed in colleges and universities from 1966 to June, 1968.

USOE Sponsored Research on Reading
(ED 016 603, microfiche $0.50, hard copy $5.30 from EDRS).

The bibliography provides a comprehensive review of all USOE projects on reading and closely related subjects funded by the Bureau of Research since its inception in 1956. Each entry includes citation data, index terms, and a descriptive abstract of the document.

USOE Sponsored Research on Reading, Supplement 1
(ED 031 606, microfiche $0.50, hard copy $3.05 from EDRS).

A citation bibliography of important research completed on reading and closely related subjects for the years 1966 to July, 1969. Index terms for each document are included.

Current USOE Projects on Reading
(ED 031 607, microfiche $0.25, hard copy $0.90 from EDRS).

Lists projects relating to reading currently funded by the Bureau of Research of the U.S. Office of Education—period covered: December, 1964 to May, 1969. Project résumés include descriptors related to reading. Information includes project number, title, investigator, institution, proposal date, and descriptors.

Indexes to ERIC/CRIER Basic References
(ED 030 004, microfiche $1.75, hard copy $21.95 from EDRS).

Provides indexes to the references by broad subjects and grade levels. The broad subjects are defined with descriptive phrases chosen from the documents. An author index is also included. The introduction explains the development of the classification system used in indexing.

Bibliographies Related to Special ERIC Collections

As ERIC publishes special collections of documents, ERIC/CRIER searches these data bases and develops bibliographies of the reading documents in each collection.

Title III (PACE) Projects on Reading
(ED 017 409, microfiche $0.25, hard copy $2.50 from EDRS).

Title III (PACE) Projects on Reading, 1967
(ED 023 568, microfiche $0.50, hard copy $4.45 from EDRS).

Title III (PACE) Projects on Reading, 1968
(ED 029 162, microfiche $0.25, hard copy $2.75 from EDRS).

The first bibliography in this series provides a listing of all reading-related PACE projects reported for 1966. As the titles indicate, the latter two bibliographies provide the same information for 1967 and 1968. In each of the bibliographies, entries include citation data, index terms, and a descriptive abstract.

Reports on Reading and the Disadvantaged—Elementary Level
(ED 015 350, microfiche $0.50, hard copy $5.65 from EDRS).

Reports on Reading and the Disadvantaged—Secondary Level
(ED 016 146, microfiche $0.50, hard copy $4.35 from EDRS).

The Educator's Complete ERIC Handbook, the report of 1,700 research reports on the disadvantaged, was reviewed and reading projects and reports were selected according to their level for the Elementary and Secondary bibliographies listed above. Each entry includes citation data, index terms, and a descriptive abstract.

Publications of the International Reading Association

In addition to the reading resources listed in this booklet, the International Reading Association, co-sponsor of the Clearinghouse on Reading, publishes a wide array of bibliographies, monographs, reading aids, convention proceedings, and other special reading materials. A complete list of the more than 70 IRA publications can be obtained by writing the International Reading Association and requesting the "Publications and Membership Information Brochure."

Ordering Instructions

Publications which are indicated as available from the International Reading Association can be ordered by citing the title and sending the cost listed to:

International Reading Association
6 Tyre Avenue
Newark, Delaware 19711

Microfiche and hard copy reproductions of ERIC/CRIER publications which are indicated as available from EDRS can be obtained by writing:

ERIC Document Reproduction Service
The National Cash Register Company
4936 Fairmont Avenue
Bethesda, Maryland 20014

This information must be furnished to order documents:

1. The accession number (ED number) of the desired document.
2. The type of reproduction desired—microfiche or hard copy.
3. The number of copies being ordered.
4. The method of payment—cash with order, deposit account, charge.
   a. Add a special handling charge of 50c to all orders.
   b. Add applicable state sales taxes or submit tax exemption certificates.
   c. Add a 25% service charge on all orders from outside the United States, its territories and possessions.
   d. Payment must accompany orders totaling less than $5.00. Do not send stamps.
   e. $20.00 prepaid EDRS coupons are available upon request from EDRS.

OTHER REPORTS BY THE EDITORS OF EDUCATION U.S.A.

AASA Convention Reporter. Highlights of the 1970 Annual Convention of the American Association of School Administrators, Atlantic City, New Jersey, February 14-18. #411-12750. 24 pp. $1.50.

The Big Talent Hunt. How leading districts recruit teachers, as told by recruiters and placement officers. #411-12446. 1969. 32 pp. $5.

Black Studies in Schools. A roundup of successful programs and policies across the nation--what school systems are doing about black and other ethnic studies programs. #411-12746. 1970. 48 pp. $4.

Differentiated Staffing: A Review of Current Policies and Programs. Tells how some schools are using this new way of deploying and paying teachers and whether it works. Includes candid comments of members of differentiated staffs. #411-12754. 1970. 48 pp. $4.

High School Student Unrest. Tells school administrators how to anticipate protest, channel activism, and protect student rights. Tells where and why high school students are protesting. #411-12744. 1969. 48 pp. $4.

Individually Prescribed Instruction. Answers such questions as: What is IPI? How is it working in experimental elementary schools? How does it differ from the traditional school? What changes are necessary to introduce IPI into a traditional school? #411-12420. 1968. 32 pp. $3.

NAESP Convention Reporter. Highlights of the 1970 Annual Meeting of the National Association of Elementary School Principals, Philadelphia, Pa., April 18-22. #411-12752. 24 pp. $2.

NASSP Convention Reporter. Highlights of the 54th Annual Meeting of the National Association of Secondary School Principals, Washington, D.C., February 7-11, 1970. #411-12748. 24 pp. $2.

Sex Education in Schools. A review of current policies and programs for the guidance of school board members, administrators, teachers, and parents. #411-12732. 1969. 48 pp. $3.

The Shape of Education for 1970-71. Twelve articles in concise understandable language highlight significant new developments that have surfaced as major educational issues. A handy reliable sourcebook for speech and news writers on what's new in education. #411-12760. 1970. 64 pp. $3.

Urban School Crisis: The Problems and Solutions Proposed by the Urban Education Task Force of HEW. A blueprint of the extraordinary deficiencies in our urban school system, with a clear guide for correcting them. Because the Task Force report was not released for general distribution, Education U.S.A. reproduced the entire report, directly from the Congressional Record, as a public service. #411-12756. 1970. 64 pp. $4.

Address communication and make checks payable to National School Public Relations Association, 1201 16th Street, N.W., Washington, D.C. 20036